AVIATION WEEK
AUG. 28, 1950
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ask the men who KNOW L-M high intensity runway lighting

Men who know are high in their praise of L-M runway lighting, with its high intensity controllable beam that gives extreme penetration and a minimum of glare. Airline men, pilots, and airport managers can tell you from their own experience the importance of good delineation of runways in all kinds of weather. Ask some of the men who know. Then ask the L-M Field Engineer for complete information, or write Airport Lighting Division, Line Material Company, East Stroudsburg, Pennsylvania (a McGraw Electric Company Division).

Bill Eckenrod at Chattanooga KNOWS!

"Because of the mountainous terrain surrounding Chattanooga, we have had a very great need for high intensity runway lights to implement ILS in bringing aircraft into Lovell Field in inclement weather," writes W. E. Eckenrod, well-known manager of Chattanooga's municipal airport.

"The first night these lights were turned on, airline pilots were unanimous in their approval, and their comments could be summed up by this remark to the control tower: 'This is what Chattanooga has always needed!'"

John Casey at Chicago KNOWS!

Chicago's big Midway Airport is one of the busiest in the world. And John A. Casey, its manager, is a leader in progressive airport operation. He knows how important it is to avoid delays in landings and take-offs. Mr. Casey says: "The installation of the high intensity runway lights at Chicago Midway Airport in 1948 was the missing link in the completion of the chain of landing aids used under conditions of restricted visibility. The high intensity runway lights are a perfect implementation of the ILS and GCA. All comment has been extremely favorable, with not one complaint."

Bob Neblett at Jackson KNOWS!

"We've had some unusual experiences here with our high intensity runway lighting," writes Bob Neblett, manager of Hawkins Field, Jackson, Mississippi's municipal airport. "We've brought some ships in through weather that we didn't think any lights could penetrate. To me, the extreme high intensity, without glare, is a most important feature of these lights. And it's the controllable beam that makes it possible."

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World's biggest bomber switches to B. F. Goodrich brakes

ON AUGUST 3, the world's largest bomber took off and landed for the first time on B F Goodrich wheels and brakes. This was the first of the B-36s now on order at the Fort Worth Division of Convair which will be B F Goodrich equipped.

The switch by the B-36 is another step in the trend of large aircraft to B F Goodrich Expander Tube brakes. There are good reasons for the trend. The basic design of BFG brakes saves weight, gives maximum braking power, reduces maintenance, prolongs life.

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Maintenance is quick and easy because many extra parts found in other brakes are eliminated. Relining calls for only a screwdriver and wrench.

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Aviation Week

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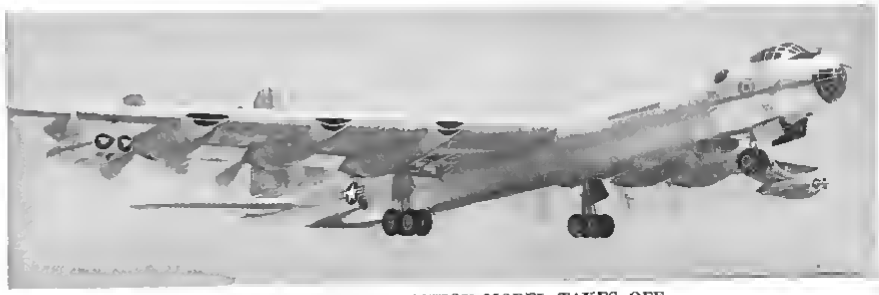


LATEST B-36 PRODUCTION MODEL TAKES OFF

Latest combat version of Convair's huge B-36 series, the B-36D, incorporating all the newest modifications, takes off on its first flight at Fort Worth, Texas. This is the first of the "D" production series. Power includes four GE J-47 axial flow turbojets mounted in pairs under each wing to give additional power for takeoff, better climb, higher service ceiling, and speed boost.

AERO COMMANDER OFFERED FOR MILITARY USE

Trim high wing, twin-engine Aero Commander light transport has started an intensive series of demonstrations before potential military customers to prove its utility as an executive plane or for liaison or twin-engine training purposes. Now powered with 190 hp. Lycomings, the 4200 lb. gross-weight craft has a sea level top speed of 181 mph. and a minimum control speed of 65 mph.

USAF BOOSTS SCORPION ORDER

Northrop has received a recent letter of intent from Department of Defense calling for more F-89 Scorpion all-weather fighters. Both J-47 engines have afterburners.

SABENA JOINS UN AIRLIFT

First DC-4 sent Sabena (Belgian Airlines) to aid in the Pacific airlift to Korea is shown after arrival in New York with double crew. They were welcomed by airline's U. S. manager, Fernand J. Martens, center.

AVIATION CALENDAR

Aug. 28-30—International Northwest Aviation Council annual conference, Sun Valley, Ida.

Sept. 5-7—Aircraft Spark Plug and Ignition Conference, sponsored by Champion Spark Plug Co., Hotel Secor, Toledo.

Sept. 5-10—Eleventh flying display and exhibition, Society of British Aircraft Constructors, Farnborough airfield, England.

Sept. 7—Pratt & Whitney distributor operation and maintenance meeting, Pacific Airmotive Corp., Linden, N. J.

Sept. 9-10—Third annual convention of the California Wing of the Air Force Assn., Arrowhead Springs Hotel and Spa near San Bernardino, Calif.

Sept. 10-14—Instrument Society of America instrument conference and national exhibit, the Coliseum, Houston, Tex.

Sept. 12-14—Conference on ground facilities for air transportation, Massachusetts Institute of Technology, Cambridge, Mass.

Sept. 18-22—Fifth national instrument conference and exhibit, Memorial Auditorium, Buffalo, N. Y.

Sept. 19-21—Joint meeting on navigation and electronics, sponsored by the Institute of Navigation, the Radio Technical Commission for Aeronautics and the Radio Technical Commission for Marine Services, Hotel Statler, N. Y. C.

Sept. 25-27—1950 national electronic conference, Edgewater Beach Hotel, Chicago.

Sept. 28-30—Aeronautic meeting and aircraft engineering display, Society of Automotive Engineers, Hotel Biltmore, Los Angeles, Calif.

Sept. 28-30—14th annual convention of International Northwest Aviation Council, Sun Valley, Idaho.

Oct. 12-13—1950 conference on airport management and operations, Max Westheimer Field, North Campus, University of Oklahoma, Norman, Okla.

Oct. 16-20—1950 annual general meeting of the International Air Transport Assn., Fairmont Hotel, San Francisco.

Oct. 24-25—Third biennial Materials Handling Conference, sponsored by Westinghouse Electric Corp., Hotel Statler, Buffalo, N. Y.

Oct. 25-26—Flight Safety Foundation annual Safety Seminar, Denver, Colo.

Nov. 29-Dec. 1—Eighth annual meeting of Aviation Distributors and Manufacturers Assn., Ambassador Hotel, Los Angeles.

Dec. 16—14th Wright Brothers Lecture, Institute of Aeronautical Sciences, U. S. Chamber of Commerce Auditorium, Washington, D. C.

Jan. 29-Feb. 1, 1951—19th annual meeting of the Institute of Aeronautical Sciences, Hotel Astor, N. Y.

May 30-Sept. 9, 1951—World Transportation Fair, Santa Anita Park, Arcadia, Calif.

PICTURE CREDITS

7—Convair; Engineering Sales & Service Corp.; INF; Sabena Belgian Airlines; 11—Wide World; 13—Curtiss-Wright; 14—(upper & lower) McGraw-Hill World News; 15—Convair; 28, 37—(left) Temco, (middle) Beech, (right) Fairchild; 31—Airmotive; 38—McGraw-Hill World News.

NEWS DIGEST

DOMESTIC

Electronics production for the military of $1.5 billion in the next 15 months is called for in a National Electronics Mobilization Committee plan. The committee has been formed to coordinate all electronics industry mobilization activities. The new group is composed of 22 electronics field leaders appointed by Robert C. Sprague, president of the Radio-Television Manufacturers Assn., and Frank M. Folsom, chairman of the National Security Industrial Assn.

TWA service with 2-0-2As will start in and out of New York on Sept. 1. The new 36 passenger planes will also serve Philadelphia, Pittsburgh, Columbus, Dayton, Chicago and Kansas City. Later, Indianapolis, Cincinnati, Louisville and St. Louis will be included.

American Airlines DC-6 lost No. 3 engine, presumably due to propeller failure, near Denver, Colo. With 52 passengers and crew of five, the plane was cruising at 21,000 ft. en route from Los Angeles to Chicago. Plane was landed safely at Denver. One male passenger died of a heart attack, and five others and the stewardess were slightly injured as a result of damage to the fuselage between the first four rows of seats.

Third AJ-1 Navy bomber was destroyed when the right-hand P&W R-2800 engine tore loose at 25,000 ft. over Edwards AFB, Muroc, and damaged the plane's tail assembly, sending the AJ into a spin. The test crew rode the plane down to 10,000 ft., then bailed out.

How air traffic will fare by 1980 is visualized in a comprehensive forecast by the Port of New York Authority, which predicts a 238-percent jump in intercity passenger mileage compared with the 6.6 billion passenger miles flown in 1949. Other spectacular 1980 prophecies: Rail business will fall off 42 percent, airlines will carry almost all people traveling over 1000 mi., overseas traffic will double, air cargo will be nine times that of 1949. The Port Authority expects the government to approve air carriage of all first-class mail going over 1000 mi. after 1960.

Shipments of propellers and parts during first half of 1950 totaled $33.8 million, with $28.1 million going to U. S. military customers. Comparable figures for last year were $31 million and $24.3 million. Propeller plant employment ranged from a high of 8378 during Jan. 1950 to 8258 in June. The data are based on reports by ten prop and parts makers.

Brig. Gen. Henry C. Kristofferson, one of PanAm's top pilots and a pioneer of the famed "Hump" operation of World War II, has been called back to active Air Force duty. Kristofferson is a specialist in long haul operations.

Personal and executive plane exports in the 5000 lb. and under category, by eight companies totaled 19 valued at $102,483 during July, compared with 29 valued at $221,886 reported by nine concerns the previous month.

Dick Johnson won the national soaring title at Grand Prairie, Tex., with a flight of 336 mi. Johnson's RJ-5 sailplane is credited with having a wing form of very advanced design.

FINANCIAL

Southern Airways, Inc. showed a net loss of $292,333.24 for the period June 10, 1949 to May 31, 1950. This was based on the present mail rate. Permanent mail rates are expected to lower this figure materially.

The Sperry Corp. and its domestic subsidiaries reported a net income for the first 6 months of 1950 of $4,263,374, equal to $2.10 per share, compared with $3,700,525, or $1.82 per share, in the first 6 months of 1949. Shipments during the first half of 1950 were $77,521,887, compared with $61,407,131 in this same period last year. Unfilled orders at the end of June, 1950, were about $196 million, compared with $130 million at the same date last year.

Lockheed Aircraft Corp. announced a 50¢ a-share dividend, payable Sept. 15 to stockholders of record Aug. 25. It will be Lockheed's third dividend of 50¢ this year. In 1949 the company paid dividends totaling $2 a share.

Westinghouse Electric Corp.'s net income for the first six months of 1950 totaled $27,206,707. This is equal to $1.86 per share of common stock. Net income for the same period a year ago was $28,409,961, equal to $2.10 per share. Net sales for the first 6 months of this year totaled $463,907,387 as against $468,073,982 in the first half of 1949.

WHO'S WHERE

In the Front Office

George M. McCleary, a director of U S Airlines, has been named president, succeeding **Harry R. Playford**, organizer and president of the company since 1945. McCleary, a director of Florida Securities Corp., has had extensive aviation securities experience. Playford resigned because of the pressure of his other business interests. He will continue to be a director of the all-cargo airline.

L. N. Mason has been appointed assistant to the president of Braniff International Airways. Mason, who has for the past two years been an executive of the Farm Bureau Insurance Co., Columbus, Ohio, will assist in a program by the airline to step up effectiveness and economy of operations.

W. R. "Ike" Lynn has been named administrative assistant to the vice president of The Flying Tiger Line. He joined the freight carrier two years ago as a salesman.

New Appointments

NSRB ROSTER BOOSTED—W. Stuart Symington (left), chairman of the National Security Resources Board, extends a warm welcome to his new assistant, Robert J. Smith, former head of Pioneer Air Lines, immediately after Smith has taken the oath of office as vice chairman. Smith has had extensive Air Force experience.

Luis de Florez, head of Florez Engineering Co., has been appointed to the National Inventors Council, which celebrated its tenth anniversary August 15.

Changes

Steve Canton has been named air express publicity representative for Railway Express Agency, succeeding **W. J. Cleary**, new editor of publications.

► **Among the Manufacturers**—Raymond C. Forsnas has been appointed hydraulic division representative for West Coast, Texas and Kansas by Pantex Manufacturing Corp.

INDUSTRY OBSERVER

► **Stanley Aviation Corp., is stepping up its development of heavy-duty cargo-dropping equipment designed particularly for dropping heavy artillery supplies on rugged terrain. The Buffalo, N. Y., company's $200,000 contract calls for development and delivery of prototype of a dropping platform. It would be equipped with electrical devices which would open the parachute on discharge from plane and disconnect chute from the platform on contact with ground. Final equipment would be capable of handling mass paratroop drops.**

► Cessna Aircraft Co. is advancing by three months normal production, plans of the L-19. The plane is being procured for Army Field Forces as a result of recent competition between lightplane manufacturers to meet stepped up Army requirement for artillery-spotting aircraft. L-19 is an all metal, two place monoplane equipped with a Continental O-470-11 engine developing 213 hp.

► **Aeronca Aircraft Corp., last year in a rocky financial position, is making a fast come-back. It is producing rocket bazooka launchers for the Army. The bazooka launcher fires a 28-in. long, 3.5-in. rocket with an effective range of 200 yards and is capable of piercing 11-in. armor. Production, currently held at 70 items per day, could be stepped up to five times that amount within 60 days.**

► The first Canadian-built North American F-86 jet fighter reached a speed of 670 mph. on its initial test flight, August 9, over the Montreal airport. The Canadian version of the Sabre, built by Canadair, is scheduled for installation on the Avro Orenda as soon as the engine is in production.

► **Runway of Boeing Airfield, Seattle, is being lengthened to 10,000 ft., for testing the XB-52 "heavy" jet bomber. Extension, which will cost approximately $900,000, has been approved by CAA. Company plans roll-out of the big bomber late in 1951.**

► Avco Corp., Nashville, Tenn., division, used by Convair during World War II as an assembly plant, is soaring back into the aviation industry picture with heavy orders for aircraft components. Plans are also completed by the division to convert to either fighter or bomber production in the event of total mobilization.

► **Beginning July 1, 1952, all Civil Aeronautics Administration facilities and services will use the nautical mile and the knot as a single military-civil standard for measurement of distance and speed. Already adopted by the military, the nautical mile and knot speed has long been considered superior to the statute mile from a navigational point of view, according to CAA.**

► Aeronautical Radio Inc. has announced expansion of communication services for airline planes flying the Pacific, through arrangements with Mackay Radio and Telegraph Co. Mackay has enlarged its radio transmitter building at Kailua, Hawaii, and has installed four new multichannel transmitters and antennas, to enable Arinc to cover the entire Pacific with both radio telephone and radio telegraph service to planes.

► **A Baltimore, Md., subsidiary of Skyline Corp., Wichita, Kan., has been organized for the development, design and manufacture of aircraft armament and associated equipment. Known as Armaments Aircraft, Inc., the new company is headed by a former Glenn L. Martin Co. executive vice-president, Harry T. Rowland. Key personnel of Armaments Aircraft are, for the most part, drawn from the Martin organization.**

► British sources report that a new jet bomber larger than the B-36 is under construction in England. Scheduled for roll-out next spring, the plane is said to be twice the size of the British Lancaster which had a span of 120 ft. and length of 78 ft. As yet not named, the big bomber is expected to fly at a speed of more than 600 mph. and at altitudes above 55,000 ft.

(Due to a typographical error, a reference was made in this space last week to an "F-98" fighter. The designation, of course, should have been F-89.)

AVIATION WEEK VOL. 53, NO. 9
AUGUST 28, 1950

The Climb Back to Air Power

Two and one-half years ago, the Finletter Commission, appointed by the President, concluded that the U. S. needed 70 air groups to defend itself from attack. The Korean action, never envisioned by the planners, caught the U. S. with an Air Force not only smaller than recommended, but of different character. Now the build up has been started to a new type of air force from the skeleton 48 groups that were dictated by economy. Here is the step-by step record of what's been happening to the USAF:

GROUPS	FINLETTER REPORT January, 1948	AUGUST, 1949 (Actual)	JUNE 1, 1950 Pre-Korean Cutbacks	NEW GOAL
Heavy Bomber	2	2	3	5
Medium Bomber	18	13	12	15
Light Bomber	5	2	1	4
Day Fighter	22	20	17	21
All-Weather	3	3	3	5
Tactical Reconnaissance	4	1	1	5
Strategic Reconnaissance	6	6	5	5
Troop Carrier	10	7	6	9
Totals	70	54	48	69

New Orders Coming for Tactical Planes

USAF to up buying of assault transports, light bombers, copters, longe-range fighters.

By Ben Lee

The battle in Korea, sparking a long smouldering inter-service resentment over roles and missions, is forcing a change in Joint Chiefs of Staff planning—and this promises a profound effect on USAF procurement.

The Joint Chiefs have ordered USAF to tighten liaison with Army in meeting Army requirements in close-support technique and to step up procurement of tactical support aircraft.

This is what Army sources say is needed from the Air Force, in the following priority:

- Assault and troop transports
- Helicopters
- Long-range fighters
- Light bombers

These steps USAF has already taken:

- Ordered completion of assault transport evaluation between Chase, Northrop and Fairchild transports by Aug. 30—30 days ahead of schedule.
- Ordered reassessment of twin-engine transport needs. USAF thinking is currently in terms of modifying an existing production twin-engine transport to fill a dual role—pilot trainer and light utility.
- Made plans to up orders on North American B-45D version which will feature heavier, improved armament and a greatly increased fuel capacity over "C" version.
- Stepped up orders for the Convair T-29.
- Asked for step-up of the Piasecki XH-16 development. The copter is currently expected to make its first test flight in mid-1952.
- Asked for speed-up of McDonnell F-88 experimentation with Allison T-38 turboprop installation. Allison will be asked for heavy increase of T-38 production.

▶ **Air Mobility**—At the 1948 Key West, Fla., conference, USAF was charged with development of long range strategic warfare, air defense of the U. S. and tactical support for the Army and Navy when required.

Air mobility and tactical support of its ground troops is a sore point with the Army. Today, the Army is not air transportable. Army sources state emphatically that even a short strategic airlift of one division in its entirety would be impossible.

Since Key West, the Army has consistently claimed that USAF has paid little heed to its needs in tactical aviation. Air Force has insisted that it has provided for Army requirements within the limit of its budget and in keeping with its primary mission of carrying the war to the enemy via long range strategic bomber.

▶ **No Tactical Planes**—The Army says the USAF answer is all right, as far as it goes. Along with Navy, it agrees that only the B-36 and the Atomic Bomb have saved Western Europe from "absorption" by Russia. But, nevertheless, Army sources claim, we still have no specifically designed tactical aviation units in production outside of troop carrier requirements.

Several months ago USAF undertook to refute this claim. It organized, produced and directed Exercise Swarmer. Set up as a joint military problem, it was designed to show the effectiveness of establishing and maintaining an air head. All equipment and personnel were introduced into and supplied in battle by air. The problem was executed under ideal conditions.

The official tabulated results of Swarmer are classified. Nevertheless, woeful inadequacies of the USAF tactical air arm were glaringly apparent.

▶ **Transports**—In transport, USAF was found lacking generally in design utilization. In loading and unloading, the air transport showing, except the C-82, was particularly poor, because of equipment. Admittedly, air bases used in the maneuver were not of Fairfield-Suisun or Tempelhof caliber. Army-USAF planners are not concerned with load and unload times at such bases. But at Swarmer airbases, in fine shape operationally, officially posted on-ground times for transports involved in the strategic airlift were in minutes and seconds.

- C-74: load time, 1 45, unload time, 45, service time, 20, ground tune, 30
- C-54: load time, 55, unload time, 35, service time, 10, ground time, 30.
- C-46: load time, 40, unload time, 30, service time, 10, ground time, 30.
- C-119: load time, 45, unload time, 30, service time, 10, ground time, 30.
- C-82: load time, 35, unload time, 25, service time, 10, ground time, 30.

▶ **Facilities Lacking**—Despite long range planning of air and ground commanders engaged in the peacetime maneuver, strategic airlift loading and unloading equipment had to be hastily improvised by engineers not only in the forward landing area but in rear staging zones.

None of the aircraft utilized in Swarmer, except the C-82 and the C-119 had similar cargo handling features. The resemblance between these two, of course, is due to the fact that the latter is merely a heavier version of the former. Generally, cargo compartments are too high off the ground and floor levels completely different with each plane, it was found.

The Army has stressed to USAF that it wants assault transport aircraft built close to the ground, with entry to cargo compartment at truck-bed height or with cargo doors opening out and down, that can double as ramps to ground level. These requirements are met only by the C-82, C-119 and Chase YC-122 and XC-123. The Northrop C-125, which also has ramp loading, is not at this time classed as an assault transport.

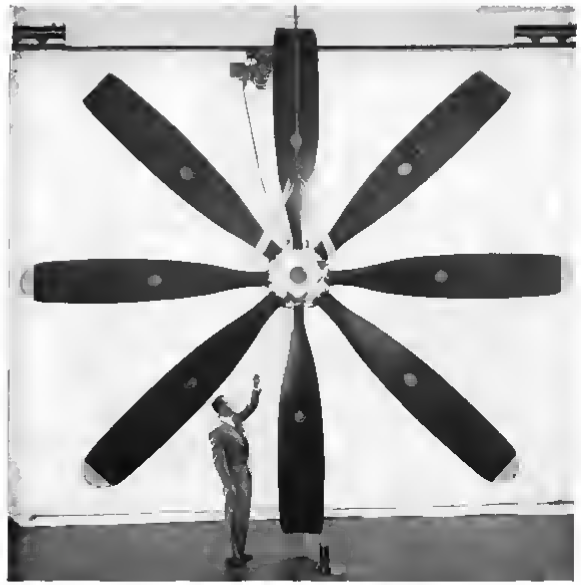
▶ **Outline for Korea**—Tactical fighter aircraft employed by Swarmer outlined problems that now face U. S. Air Force in Korea. In the North Carolina exercise USAF, cognizant of the range deficiencies of its jet fighters, studied practical application of high-altitude cover technique. The Air Force hoped to prove that it could cope with enemy fighter problems by coupling high altitude jet cover with air-ground controllers using radar intercept methods. The plan was not effective. Time after time, longer-ranged piston-engined fighters swept in low, escaped radar detection, struck their target and escaped interception.

▶ **On-Call Fighter**—The Army has asked USAF for a fighter capable of long range that could be continually "on call" when needed. Whether it is reciprocating or jet powered is of little consequence to Army. What it wants is a fighter capable of close ground support work, up to 500 mph. speed, 2500 mi. range and heavy armament (AVIATION WEEK July 17). The Douglas A2D could meet this requirement with sweptback wings as could the turboprop version of the McDonnell XF-88.

▶ **Helicopters**—The Army is particularly interested in development of the Piasecki XH-16 currently scheduled for flight test in mid-1952. Air Force is asking that Piasecki step up flight test by at least six months. The Army is also vitally interested in a single or two place light helicopter for quick, low-altitude reconnaissance and liaison missions. Requirement includes provision for easy storage aboard air transportable truck and simplicity of assembly and maintenance in the field.

▶ **Convertaplane**—The convertaplane is bobbing up again in Army-Air Force requirements talk. Whether or not it is to be revived and on what scale is conjectural at this point. Air Force sources state Army considers it the solution to all tactical aviation demands in practically any form. The requirement calls for a convertaplane capable of 350 mph. forward speed, hovering ceiling of 5,000 ft. and service ceiling of 15,000 ft.

▷ **Strategy Imperfect**—Technological progress has pushed aeronautical science to high levels, in many instances beyond its practical military application. Joint Chiefs of Staff thinking placed possibility of war at not earlier than Jan. 1953, and envisioned weapons of the future. Korea has upset the time-



Bigger Prop for Bigger Jobs

Foretaste of the future in propeller use was disclosed yesterday when Curtiss Wright Corp's Propeller division announced what it claims is the world's largest and most powerful propeller—the eight bladed, 19 ft. "Octoprop" shown above.

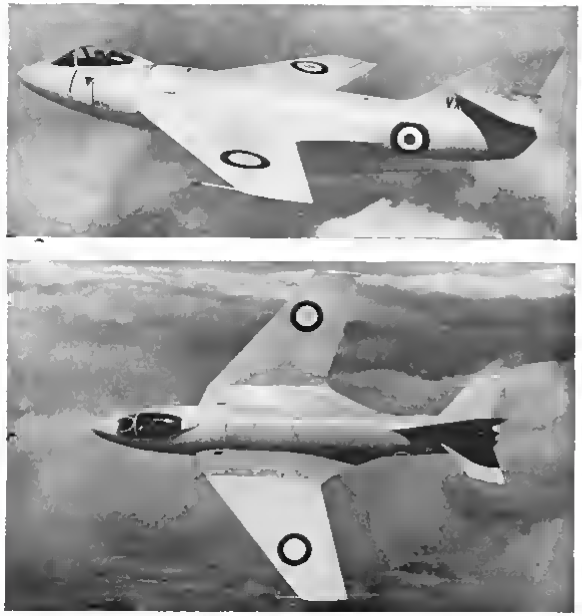
Curtiss says the dual rotation prop, which has been delivered to Wright Field for tests, was designed for use with a "gas turbine engine of 10,000-15,000 hp." Only turboprop engine yet developed in this country known to be rated anywhere near the power class of the Octoprop is the 10,000 hp. Northrop Turbodyne, now being purchased by General Electric.

The Octoprop is a development model, but its testing at this time when the Air Force is showing increasing interest in turboprop power, could indicate that it is a prototype for future Curtiss production units of this type.

In construction of the eight-bladed propeller, Curtiss engineers borrowed liberally from the experience and design of the Curtiss B-36 props. The B-36 unit has the same 19 ft. diameter, but has only three blades. The Octoprop is of hollow steel construction, full feathering, reversible and has provision for heated air de-icing.

table. As a result, air strategy for battle, based on current production weapons, is sketchy and not yet practicably crystallized. The fighting machine's military balance was proving unstable.

While long range bombing retaliatory strategy is this nation's plan for holding off potential aggressors until a firm battle plan of the day is laid, the Joint Chiefs have learned that the Finletter request for air forces "in being" were not idle words. The fact remains that the Army is absolutely dependent on USAF for tactical air support. With Korea, the Joint Chiefs found tactical aviation wanting.



HAWKER P.1081 is latest British plane to be scheduled for production abroad

Australia Builds British Designs

Hawker P.1081, new sweptwing jet, joins Canberra, Lincoln and Vampire for 'Down-Under' production.

(McGraw-Hill World News)

London—Britain's candidate for the title of world's fastest fighter—the sweptwing jet Hawker P.1081—has joined the growing list of English designs which will be built in Australia as well as at home. (AVIATION WEEK July 10, p. 15)

The P.1081 will be produced at Commonwealth Aircraft Corp.'s factory at Fisherman's Bend, Port Melbourne, Melbourne, Australia. It is also being built by its designers, Hawker Aircraft Ltd., in England at Kingston-upon-Thames, Surrey.

Negotiations had been going on for some months between Hawker and the Australian Department of Supply and have just now been completed. Australian technicians are at Hawker's Kingston factory studying the design of the P.1081, and the first batch of drawings has already been sent to Australia. Performance trials of the P.1081 in England will be held at Boscombe Down within the next few weeks.

▶**Striking Jet**—The P.1081, a development of the Hawker P.1052, flew for the first time on June 20 and three days later was flown to Brussels by Squadron Leader T.S. "Wimpy" Wade, Hawker's chief test pilot, to take part in the Brussels International Air Show. Its exceptional speed and maneuverability was later strikingly demonstrated by Wade in a series of spectacular low level flights across Farnborough airfield at the RAF Display on July 7.

Powered by a Rolls-Royce Nene 5000 lb. thrust turbojet engine, the P.1081 has sweptback wings, tailplane, and fin and rudder, and a single jet exhaust instead of the split duct exhaust on its predecessor, the P.1052. This straight-through exhaust allows the P.1081 to be equipped with reheat. Span is 31 ft. 6 in., length 37 ft. 4 in.

The Nene centrifugal type turbojets for the Australian-built fighters will be built in CAA's engine factory which is also at Fisherman's Bend.

▶**Canberra Bomber**—The same factory is also swinging into production on the Rolls Royce Avon axial-flow turbojet design, which will be supplied for the Australian-built Canberra light bombers, originally a design of English Electric Company Ltd.

The Canberra twin jet bomber (some 500 of which are being built for the RAF in English Electric's Preston works) is also going to be built in the Melbourne factory of the Australian Government's Department of Aircraft Production. Tooling up for this project is already underway.

British aircraft designs are no strangers to the DAP which in May rolled out its 50th Avro Lincoln piston-engined heavy bomber, currently Britain's best effort in this field.

▶**Vampire Production**—De Havilland's Australian factory at Sydney is currently in the midst of producing an order of 50 DH Vampire single-jet fighters for the RAAF, using Australian built Nene engines in place of the DH Goblin.

Australia isn't wholly dependent on British designers, however. CAC is now in the final stages of assembly of a new trainer prototype of its own design which is expected to fly early in the spring of 1951. Commonwealth is also well along on a long-range all-weather fighter project.

Props on Top

In dollars and weight, propeller planes will exceed jet purchases.

By Alexander McSurely

Dayton—Measuring with the $7.7-billion plane procurement program of fiscal 1951 as a yardstick, the future of the propeller driven military airplane now looks brighter than at any time since the first American turbojet plane, the Bell P-59 Airacomet, made its first flight back in 1944.

Analysis of the complete program, whose figures are still not disclosed for security reasons, indicates that in airframe pounds, and in dollars, the propeller-driven planes are ahead of the jet-powered craft.

Bulking large, dollar-wise, in the procurement of propeller warplanes are the big, high-cost-per-unit orders for transports—principally Douglas C-124s, Boeing C-97s and C-119s—which total well over 500 planes.

Meanwhile, a newcomer in the transport field may prove important. It is the Consolidated Vultee P5Y turboprop flying boat transport, just ordered by the Navy in a small quantity.

The Navy, which took the lead in U. S. turbine-propeller developments after World War II, is also placing a substantial new order for the turboprop Douglas A2D attack plane. Meanwhile, Air Force, which never really stopped propeller research despite the fact that some of its top generals prematurely wrote off the propeller as a military factor, is now a heavy backer of new propeller developments.

▶**Curtiss Prop Test**—Recently disclosed was the Air Force project to test a new Curtiss eight-blade propeller of 10 ft. diameter on a McDonnell F-88, with an Allison turboprop T-38 engine in the nose.

The project seeks to get actual flight experience in the high subsonic, and possibly transsonic range with a propeller aircraft. Augmenting the T-38 power will be the F-88's original turbojet Westinghouse J-34 twin powerplants.

Air Force also is the backer of wind-tunnel tests of what is possibly the first full-scale propeller with supersonic flight design capabilities, an Aeroproducts development, at Cornell University's research center located at Buffalo, New York.

▶**Transport Plans**—While current transport procurement is concentrated on piston-engine propeller driven planes, transition to turboprop engine power for at least two of the principal types—the four-engined C-124 and C-97—is already being planned.

First military turboprop production orders are going to Allison for the T-40 powerplants in the A2D and the P5Y. But Pratt & Whitney's PT-2 turboprop is due to get some orders for the transport turbine-propeller versions.

With USAF expected to buy some more Convair T-29s (navigation trainer version of the commercial Convair-Liner), a turbine-propeller version of this plane, with Allison engines, is also a likely prospect.

While immediate turboprop emphasis is on the planes mentioned, new turbine-propeller bomber conversions of such planes as the Consolidated B-36 and the Boeing B-47 are being considered.

It is understood that the first priority is being placed on the transport program due to lack of adequate airlift capacity.

▶**Comeback**—Two factors are predominant in the interesting comeback of propeller driven planes:

• **Development of new thin-blade** high-speed propeller blades capable of speeds considered impossible only a few years ago.

• **The discovery in Korea** that the high fuel consumption of turbojet engines, in their present state, still makes long-range military jet operation a very costly operation in terms of payload and range.

Airlift Demand on Carriers Is Lower

Military requirements for commercial airlift to carry high priority passengers and cargo to the Korean battle area have passed their initial peak.

Barring a sudden worsening of the situation in the Orient, or a new emergency elsewhere, the Department of Defense believes it can get along with the 65 four engine airline planes it now has on hand.

The Military Air Transport Service said that it would not need five other commercial transports which were slated to enter the Pacific airlift but had not yet been delivered for integration in the operation.

▶**Surplus Capacity**—With the airlift already offering about 15 percent more capacity than required, there was speculation that some of the 65 planes in service would also be returned to civilian use.

Regular airlines are providing 40 of the 65 planes contracted to the military. Remainder came from nonscheduled service.

Certificated airlines for the most part, would welcome early return of the bulk of their equipment, even though many of the C-54s now under military charter had previously been engaged in non-profitable cargo operations.

Nonscheduled carriers, on the other hand, would be happy to keep their ships busy in military contract service on a long term basis.

▶**Contracts Indefinite**—Just how the carriers will come out of the Pacific airlift financially has not yet been determined. The work was started under letter contracts which permitted only part payment for services rendered. Final contracts were in almost complete form last week.

A number of the commercial craft that went into the Pacific airlift from scheduled service required extensive conversion for the long range operation. Big question is who will bear the cost of such modifications.

Although unprecedented use is being made of cargo space in combination passenger-cargo planes, freight backlogs have accumulated at some domestic airline points.

Eastern Air Lines stopped its all-cargo service completely, and other carriers were forced to skip points formerly served by airfreighters.

▶**Replacements Eyed**—Some airline officials considered the possibility of replacing their cargo C-54s with twin-engine C-46s. But the deals did not materialize.

To many airline officials, the Korean outbreak pointed up a significant fact. The carriers were in greater readiness to meet the emergency than the military itself.

Even so, despite previous denials that any such course was intended, military officials attempted to take over airline operations rather than charter the carriers' equipment.

A COMPLEXITY OF MODERN WAR

One of the unpublicized but highly necessary machines needed for waging intercontinental warfare is the impressive bomb-loading device shown here carrying a 21-ton dummy utilized by Convair for B-36 loading practice at Fort Worth. The carrier can handle 25 ton missiles. Loader is towed beneath plane, then bomb is hydraulically lifted into position inside bomb bay, where it is secured.

What's Ahead in Congress

New Leadership

The House Armed Services Committee Chairman Carl Vinson is at the helm, steering the country's defense program and mapping its future course.

Secretary of Defense Louis Johnson, whose energies since the Korean outbreak have been so largely dissipated in personal, political, and policy feuding with the State Department and scores of congressmen, has not yet challenged the new leadership. One reason Vinson has diplomatically kept it on a behind-the-scenes basis.

Vinson's skepticism of Johnson's administration goes back to the date of his appointment.

Frustrated by the President's backing of Johnson (particularly on the 70-group Air Force issue), the Georgia veteran in Congress followed a give-and-take compromise course while the war remained cold. For example, this spring he dropped his demand for a $583-million supplemental appropriation for aircraft procurement when Johnson agreed to go along with a $300-million increase.

With the outbreak in Korea, Vinson aimed to quell his hotheaded colleagues harassing Johnson for his "economy" program and suggested that the past be forgotten. But, simultaneously, he decided that defense must come first from here on out, and that Johnson was too steeped in politics to put defense first. The time for compromise was over. A non-political figure whose interest during his 35 years service in the House has been almost exclusively defense, Vinson took over.

The Joint Chiefs of Staff and other top officers are now working out strategic plans and armed services composition with the Georgian. In addition, several subcommittees he has appointed are gathering data on the operational level at closed sessions with specialists. These include the subcommittees on USAF Procurement (headed by Rep. Paul Kilday), on Naval Aircraft Procurement (headed by Rep. Lansdale Sasscer), on Guided Missiles (headed by Rep. Edward Hebert), on the Radar Fence (headed by Rep. Mendel Rivers), on Tactical Aviation (headed by Rep. Overton Brooks).

Vinson has announced he will make a major House address when planning has crystallized, outlining what the country's defense strength is and what it should be. Later, however, he remarked to AVIATION WEEK: "But maybe we will get what we want and should have without any speech, and, in that case, it would be better for all not to have a speech."

He made these observations, indicating what's to come in defense:

- **Air Force**: "I don't think we have to worry about the Air Force right now. With the President's supplements (bringing USAF procurement for this year up to $4.2 billion, exclusive of procurement for foreign aid, which will be heavy), the Air Force will be in satisfactory shape. I do not see any urgency now for lifting the legal authorized strength (of 'not to exceed 70 groups') for the Air Force."
- **Naval Aviation**: "Even with the President's supplementals (bringing funds for 1951 fiscal year Naval aircraft procurement to $2.2 billion), it will still be in bad shape, we will need a great deal more money for Naval aviation this year. And maybe we will decide to go ahead with construction of the super carrier, the United States."
- **Tactical Aviation**: "We have been considering transferring it to the Army, but even more than that I am thinking about transferring it to the Marine Corps."

Where the Money Went

The lion's share of the $48 billion expended on defense over the past four years—$34.8 billion—went for food, pay, clothing, maintenance, and operations, Chairman Millard Tydings of the Senate Armed Services Committee, explained to the Senate. Only a fraction—$6.2 billion—went for new planes.

Still More Planes

Reliable Sen. Harry Byrd, a member of the Senate Armed Services Committee, reports that "the top command" has approved an additional $15-billion increase in defense spending—for both foreign aid and our own forces—which will be recommended to Congress "in the next few weeks." This would boost the 1951 fiscal year total from $30 billion, as now recommended by the President, to $45 billion. Under the $30 billion program, plane buying—for USAF, Navy, foreign assistance—will amount to approximately $7.5 billion, under the $45-billion program, it would rise to approximately $11 billion.

Action Wanted

Sen. Edwin Johnson, chairman of the Senate Interstate and Foreign Commerce Committee, is determined to end theorizing on the subject and have a schedule of service mail payments for domestic routes ready by next March.

He wants a three-way separation of mail pay: Service payments to the airlines; subsidy payments to towns for uneconomic service; and subsidy payments to air carriers.

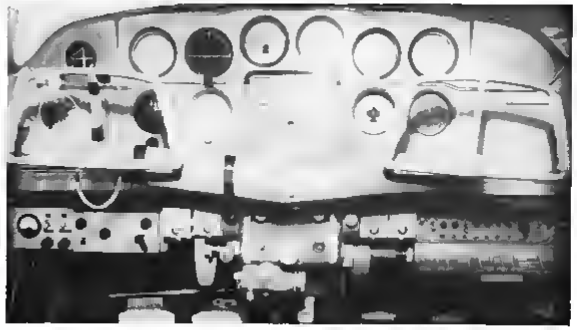
With the $200,000 that will shortly be available to his committee, he will contract with a private accounting firm with the explicit understanding that it come forth with the three-way breakdown for all domestic routes, so that separation of service and subsidy payments can be placed into effect at least by the beginning of the next fiscal year.

Railroad Undermining?

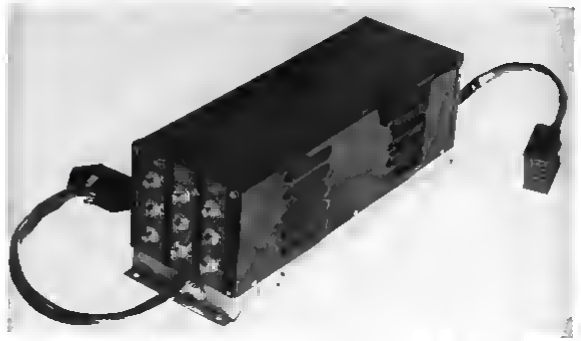
Rep. Charles Wolverton's opposition to the $12.5-million program for government-financed testing of commercial prototypes because "it doesn't go far enough" is written off in some Capitol Hill circles. They claim that Wolverton's call for more is a delaying tactic which will only throw the whole issue of commercial prototype development into a mire of controversy from which no program will emerge before the end of this session. And, even if the expanded program, to which Wolverton gives lip service at least, should be passed by the Congress, it faces a veto. The Administration has made clear that the $12.5 million program is the maximum it will support.

Wolverton is a top-ranking Republican on the House Interstate and Foreign Commerce Committee and has a reputation as a spokesman for the Association of American Railroads. AAR is opposed to the testing program as "more subsidization to the already over-subsidized airlines."

SALES & SERVICE



LEAR PILOT cockpit controls are set on small casing below wheel yoke. Unit's .



BRAIN BOX, about size of a bread loaf, contains amplifier unit with complex circuits.

New Lear Autopilot For Lightplanes

A new small postwar automatic pilot designed to ease the continuous strain of handling controls of personal and executive aircraft has been placed on the market by Lear, Inc. The L-2 Lear Pilot, designed for the four place category sells for $2990 plus installation. Deliveries are being quoted at 60 days from receipt of orders.

Lear has been developing this new device for several years under actual flight conditions in various types of weather.

The L-2 Pilot weighs 36.15 lb. complete and is about the size of a loaf of bread. In addition to maintaining level flight, the instrument can be utilized for maneuvering.

It can be disengaged instantly by actuating a switch mounted on the control wheel. Furthermore, switch clutches make it possible for the pilot to override the automatic pilot in event of emergency.

Because of a limited market in the past, little attention has been paid to developing an automatic pilot for small aircraft. High cost and weight have tended to keep the market down. Sperry's prewar air hydraulic A-4 (now out of production) weighed approximately 55 lb. However, further development by its British associates, Sperry Gyroscope, Ltd., resulted in production about a year ago, of the AL-1, which weighs approximately 20 lb. installed and costs about $1200 at present exchange rates, plus installation. Several types of lightweight autopilots have been made exclusively for military use.

Civil Schools To Train AF Cadets

Civilian flight school operators will be called upon to give basic flight training to approximately 1350 Air Force cadets, under a program announced by USAF.

A survey now being made of standby Air Force bases and civilian flight school facilities will determine the best locations for the civilian training operations for cadets.

The new program is in lieu of the plan previously announced for the opening of an inactive USAF basic flight school for a test of civilian school operation.

Meanwhile Spartan School of Aeronautics, Tulsa, and Cal Aero Technical Institute, early this month were scheduled to begin their programs of training 275 USAF airplane and engine mechanics at each school (AVIATION WEEK Aug. 7).

Air Materiel Command will announce details of flight school specifications and contracts through its Contractors Relations Section, Procurement Division, at Wright Field, Dayton.

Under the present USAF basic training program each cadet gets approximately 170 hr. flight training, which would mean approximately 230,000 flight hr. for the whole new program.

In World War II, civilian flight schools conducted virtually all the basic flight training program for the Army Air Forces, and it is anticipated they would do so again for USAF in event of war emergency.

BRIEFING FOR DEALERS AND DISTRIBUTORS

► **Ryan Distributor Named**—W. S. Kirkpatrick & Co., N. Y. C., has been appointed Navion distributor for Iran and Iraq, bringing to 40 the number of countries on the Navion roster.

► **New Sales Firm**—Distribution and export of aircraft engines, parts and equipment is the business of newly formed Boyle Aviation Co., Inc. Offices and warehouses are at 40-66 Lawrence St., Flushing, L. I., N. Y. Phone number is FLushing 3-4848. The new venture is headed by James T. Boyle; Charles Boyle, Jr., is vice president.

► **SAC Expansion**—Southwest Airmotive has signed a 12-yr. sublease contract with Braniff Airways to take over another hangar at Love Field, Dallas. SAC will move aircraft, instrument and radio shops into the new acquisition later this summer.

Earnings and Tax Estimates For Selected Aviation Issues*

Aircraft	Estimated 1950 Pre Tax Earnings	Estimated 1950 Earnings After Normal 45% Tax	Excess Profits Tax "Shelter"
Boeing	$11 75	$6 50	$3 00
Curtiss Wright	0 95	0 50	0 30
Douglas	20 00	10 00	10 30
Grumman	9 00	4 50	3 50
Lockheed	11 80	6 50	3 70
Martin	1 25	1 25	0 85
North American	6 00	2 05	2 65
Republic	1 80	1 00	0 40
United Aircraft	5 75	3 15	4 45
Airlines			
American	1 90	1 15	.50
Eastern	3 25	1 50	1 40
Northwest	2 00(d)	2 00(d)	10 00
Pan American	1 25	0 70	5 30
TWA	2 00	2 00	7 40
United	2.25	1 25	3 05

* Figures are from Value Line projection. Earnings are per common share
(d) Deficit

'Shelter' vs. Excess Profits Tax

Value Line, advisory service, points out protection that may be afforded by earnings in base period.

An interesting appraisal of the impact of taxes on aviation earnings is presented in the current survey released by the Value Line, an investment advisory service.

The current outlook of both the aircraft and air transport companies is also given careful scrutiny.

Value Line believes that even though 1950 profits may be subject to a 45 percent corporate income tax rate, the aircraft industry will show a larger net income than in 1949. Delivery rates compared favorably with 1949, even prior to the Korean campaign, and a general acceleration of shipments is now under way and will swell second-half volume.

The advisory service further declares that the aircraft manufacturing industry is in the forefront of the new $10 billion rearmament program. The major impact of expanded procurement schedules will be felt next year.

▶**Tremendous Rise Seen**—This causes the study to conclude that 1951 should see a tremendous rise in the industry's dollar volume. Pre tax income of the major producers may double the current satisfactory rate. The marginal companies may do even better.

The gain in net income is likely to be smaller due to stricter renegotiation provisions on government work and to the probable enactment of an excess profits tax in addition to an increase in the normal tax rate.

In individual analyses, the advisory service reviews the position and outlook of the selected companies it regularly appraises. It has made a bold effort to project earnings for 1950 as well as under excess profits taxation that may exist in 1951.

In making its estimates for 1950 earnings, Value Line assumes that a 45 percent corporate normal income tax rate will be in effect, retroactive to Jan 1, 1950. (The Senate Finance Committee has proposed the 45 percent rate, but retroactive to July 1, 1950.)

▶**Excess Profits Taxes**—Approaching 1951 with the safe surmise that excess profits taxes will be imposed for that year, the advisory service has computed excess profits tax exemptions for the companies under review. The basic assumption is made that such exemptions will be based on 100 percent of the average earnings for the base period 1946 to 1949. This is a good possibility, but there is no assurance of its being used. Invested capital may be used as a base, or a combination of invested capital and average postwar earnings may be the keystone of the ultimate formula.

These qualifications are important in placing the Value Line projections in proper perspective.

The advisory service's earnings and tax estimates for 1950 and the 1951 excess profits tax 'shelter' are presented in the accompanying table. Caution is directed toward the 1950 estimated earnings, after the 45 percent normal tax rate. As previously noted, a very important variation in pre tax earnings can result if the tax rate is made retroactive only to July 1 instead of to Jan 1, as assumed in the table.

▶**"Shelter" Effect**—The excess profits tax "shelter" under the assumed conditions specified will have a varying effect upon different companies.

In the case of Boeing, for example, because of its average earnings during the 1946 to 1949 period, an estimated $3 per share would be exempt from excess profits taxes. Any earnings over and above $3 per share would be subject to the special excess profits tax impost, which may be from at least 50 percent to 85 percent. It is obvious that the higher the "shelter" the more protected are earnings of the company from excess profits taxation.

Curtiss Wright, Martin and Republic, because of low postwar earnings, have very low "shelters" against excess profits taxes.

In projecting the airline "shelter" from excess profits taxes, the Value Line assumes that the same exemption prevailing during World War II will again apply during 1951 (AVIATION WEEK Aug 21, p. 52). In other words, as long as an airline's adjusted net income did not exceed its gross mail pay, it was exempt from excess profits taxes. But the advisory service follows a conservative approach and assumes that the average earnings base of 1946-1949 would not be used as a further exemption.

Under such circumstances, high-subsidy mail carriers such as Northwest have a large tax exemption. However, it stands to reason that in a time of improved airline earnings, mail subsidies would be cut sharply, reducing their excess tax exemptions under this measure.

The airlines, as a group, would do well to have their normal base for excess profits tax exemptions predicated on invested capital in preference to past earnings, as postwar results have been very poor, on average. This base, together with the special mail pay exemption feature, would again place the industry in an unique position from a tax standpoint.

—Selig Altschul

(ED. NOTE: The opinions reviewed are those of the advisory service and not necessarily those of this writer. Neither the writer nor AVIATION WEEK stands sponsor to or endorses the advisory service indicated above.)

HAMILTON STANDARD division's new duraluminum bladed, 13-ft. propeller shown installed on a Trans World Airlines' Martin 2-0-2A.

Airlines Buying Dural Propellers

Douglas DC-6Bs, Martin 2-0-2As and 4-0-4s slated to use Hamilton Standard units; 30% cost saving.

American and United Air Lines will equip their DC-6Bs, now on order, with three bladed, duraluminum propellers according to Hamilton Standard. Swissair is reported to be following suit. And the airlines can operate at the airplane's maximum design gross takeoff weight of 100,000 lb.

The manufacturer also stated that it had just received a purchase order for 130 dural propellers from the Glenn L. Martin Co. for the 65 4-0-4s going to Eastern Airlines and Trans World Airlines.

All 84 aircraft (19 are DC-6Bs—11 are for AAL, six for UAL and two for Swissair) were originally specified for steel bladed props, four bladed on DC-6Bs and three-bladed on 4-0-4s.

Hamilton Standard division, United Aircraft, told AVIATION WEEK that the prime reason for the airlines choosing the aluminum alloy rather than steel blades is a 30 percent cost reduction in initial installation and spares. Another advantage is a weight saving of approximately 30 lb. per propeller. TWA's newly delivered Martin 2-0-2As will also use the dural blade units.

►**Tailor-Made** — The manufacturer pointed out that the DC-6B dural blade is a completely new unit, tailor-made for the plane, and designed to Douglas' established aircraft operating conditions. This is unusual, they continued, since in most cases, propellers in production or "on the shelf" have been so designed that they will meet most aircraft requirements.

The three bladed propeller (hub model 43E60, blades 6895A-8) is six in. greater in diameter than the four-bladed steel unit it is replacing. Since maximum tip speeds of the steel prop were low, increased tip speeds because of greater diameter of the dural unit were found to be within acceptable limits and increased propulsive efficiency resulted.

In comparison to the three-bladed dural propeller now installed on UAL's DC-6s, the 43E60/6895A-8 unit gives a marked increase in takeoff and climb performance, while cruise performance remains practically unchanged. Ham Standard attributes this improvement to the fact that the blade airfoil section camber was increased and the activity factor (blade width) enlarged. The design incorporates an E rather than a D shank.

The 6895 dural blade will be square tipped as is the current production steel-blade model.

►**Cabin Noise Level**—Careful tests conducted on the DC-6s indicated that the decreased clearance between prop tip and fuselage resulting from increasing the diameter did not significantly raise the decible level which was measured in the cabin.

The 43E60 hub of the new prop has already seen considerable airline service on TWA's model 749 Constellations and is now going into service on Chicago & Southern's Conmies.

Martin's planes will carry a propeller identical to the DC-6B prop except that the diameter will be reduced to 13 ft. because of ground clearance considerations.

All units will be fully reversible and DC-6B units will incorporate electric deicing.

►**Other Customers?**—Ham Standard says that AA conducted tests earlier this year with the 13 ft. dural prop installation on a Convair 240. CAA's Region 1 reportedly endorsed the unit as being acceptable for the plane. It is expected that Region 6, which originally certificated the 240, will give its approval soon.

The manufacturer asserts that Mid-Continent Airlines will be able to avail itself of AA's forthcoming CAA approval, and therefore has purchased a number of similar propellers for its Convair 240s.

►**Dural vs. Steel**—G. L. Estes, Ham Standard assistant sales manager, contended that, from a commercial operator's standpoint, steel-bladed propellers

were most desirable for large, powerful installations, while the aluminum-alloy blades have no peer when installed on smaller aircraft using less powerful engines.

He stated that to install a dual prop of comparable diameter (16½ ft.) and number of blades to the steel unit on a Boeing Stratocruiser would involve a weight penalty of about 1200 lb. per plane—obviously highly undesirable for an airline. But in the 9-ft. diameter range, as used on the Beech Model 18, for example, the dural prop has a distinct weight advantage over its steel counterpart.

Somewhere between these extremes, Estes pointed out, comes a "no man's land" where the weight differential is negligible; this point is at about the 13-to-13½-ft.-diameter level (on a Convair the dural prop weighs slightly more than a steel one). The 30-lb. weight saving for DC-6B dural propellers comes from a three-bladed unit doing the job of four blades.)

Weight no longer being a factor, operators favor the dural blades because of its considerably lower cost and easier repair. Repair limits are somewhat less flexible for steel blades, and harder to effect, he said.

At Hamilton Standard, steel blade production far exceeds that of duralumin.

New Life Jacket Easier to Handle

An "uncomplicated" inflatable life jacket for airline passengers is being produced by Air Cruisers Co., 32 Welling ton Ave., Clifton, N. J. It is designed to keep the head well out of water and to be put on by the uninitiated with a minimum of confusion and instruction by the crew.

At first glance, the new jacket could be mistaken for the "Mae West" used by the Air Force during World War II. The yellow bib, which slips over the head and carries the rubberized Nylon chambers inflated by CO_2 cartridges, resembles the Air Force model. But the strap on the Mae West which goes between the legs, and other mysterious hooks and rings, aren't on the new jacket to trap civilian passengers in a confused tangle.

The new jacket, Model AD-4, consists essentially of the large yellow bib and a trailing back piece carrying two straps which are pulled around the waist and snapped to a center strap on the front of the bib. To tighten around waist, the passenger simply pulls outward in a single motion on the loose ends of the straps. These carry hand grips plainly marked "pull."

▶ **Inside-Out OK**—No harm is done if the passenger puts on the vest inside-out. It is reversible and can be snapped on just as quickly this way. To inflate, he jerks the two pull cords at the bottom of the bib. These puncture CO_2 cartridges which fill separate chambers. Each chamber can also be inflated orally.

Cartoon type instructions inked on the life jacket's back piece clearly illustrate the proper method of putting on the jacket. The maker says tests have shown that a passenger, without any coaching, requires only a few seconds longer to put on the jacket than airline personnel who have been briefed.

▶ **Advantages**—Air Cruisers considers its new model superior to the vest-type life jacket. The greatest advantage of the AD-4, the company feels, is that it more positively keeps the head out of water, protecting the wearer even when he is unconscious. The inflated bib actually crowds up under the chin and around the neck, keeping the head as far out of the water as possible and floating the body about 20 degrees from vertical, on the back.

M. L. Taylor, Air Cruisers' vice president, says vest-type jackets might permit an unconscious person to fall over on his face in the water if only the drawstring at the bottom of the vest is tied, letting the upper portion billow out loosely from the chest.

Further, Air Cruisers believes passengers of various shapes and sizes get more accurate and quicker adjustment of straps with a single outward pull. The fit around the person's waist remains nearly unchanged since there is no inflation in this area. On the vests, the upper drawstring is located in an inflation area. The passenger may tie this string before inflation and, if he is oversize, may find it is too tight, necessitating readjustment of the upper drawstring. He may have to do this in the water.

Air Cruisers says it will modify its older type life jackets into the new version for airlines. One carrier which has sent old jackets in for conversion is Braniff Airways, Inc., according to Taylor.

The AD-4 was designed by James F. Boyle, chief engineer in the firm and former president of Air Cruisers, Inc. (as distinguished from newly formed Air Cruisers Co.). During the last war Air Cruisers, Inc., turned out about 100,000 B-4 and some B-5 jackets for the government.

AF Buys More Lear Auto Pilots

Air Force contracts in excess of $3,300,000 have been given to Lear, Inc., for automatic pilots and gyro instruments, the company has announced. These contracts, plus previous orders, amount to a backlog of about $12 million.

In addition, Lear says it has been awarded a $400,000 contract by the Defense Department for automatic approach couplers, although according to Richard M. Mock, president, the order has not yet been formally received.

The Lear Automatic Pilot is to be installed in several USAF jet fighters. In conjunction with its associated automatic approach coupler, the automatic pilot will use radio signals to accomplish landing approaches under poor visibility conditions.

NEW AVIATION PRODUCTS

Topside Refueler

The ability to deliver fuel hose "on the spot" to the wing for topside refueling, without pulling and hauling from the ground, is a feature which has been emphasized in refueling equipment recently developed. The Acro Cell refueler follows this design approach (AVIATION WEEK, Aug. 7). This unit is permanently installed in the airport apron and lifts fuel hose automatically to the upper wing surface.

Another piece of equipment which, though different from the Acro Cell in other respects, supports this refueling philosophy is the Flat Top Refueler, developed by the Heil Co., Milwaukee.

This is an airport fuel truck equipped with an upper deck mounted on the top of the tank, extending its full width and length. Hose lines are carried on the top platform and lie flat for quick servicing. The need for reeling and unreeling the hose is eliminated by this design.

To refuel, the truck simply is backed close to, or slightly beneath, the wing, providing an easy step-up (or hand-up of the hose) from the truck platform to the upper wing surface. An extra pump, meter and hose for defueling are stored in underslung cabinets on the truck.

The deck is made of expanded steel reinforced with cross bolsters. Long slots or baskets on each side permit the hose to be stored in neat folds without the attention required for reeling.

Heil refuelers are being built in both truck and trailer models, with capacities ranging from 1500 to 6000 gal. The firm says its new Flat Tops already are being used by Shell, Cities Service and Asiatic Petroleum Oil companies.

Plastic-Metal Screws

Screws made of plastic and strengthened by a metal core have been placed on the market by the Foreman Insulating Screw Corp., 401 Broadway, New York.

The new fastener reportedly is comparable in strength and accuracy to a standard metal screw, but has added advantages of electrical insulation and vibration damping. The screw even exhibits self locking qualities, Foreman says, since the plastic threads, when used with a metal nut, tend to seize and form an effective lock.

An advantage of this type of screw, according to the manufacturer, is that separate insulating components, normally required with metal screws in electrical equipment, are not needed when insulation is integral with the fastener. To illustrate, the company tells of a case where four of these screws replaced 18 parts formerly used in the assembly of an electrical relay.

Essentially, the part consists of a serrated metal core which has been extrusion-coated with a thermoplastic material.

ALSO ON THE MARKET

Distinct airport markings around tetrahedrons and field windsocks can be made quickly and easily with "Airguide" circle segments of vitrified clay coated with reflective paint. Parts are weather resistant, do not have to be anchored to ground. Address: Robinson Clay Product Co., 65 W. State St., Akron 9.

On tube reducing machine, newly designed to minimize maintenance and to speed production. The saddle—supporting rocking dies which squeeze tubing into shape over internal mandrel—now is carried on rails positioned above tubing. Older machines had saddle and rails located below tubing, an easy target for scale, grit and chips which dropped down on these members and created excessive wear. Address: Tube Reducing Corp., Wallington, N. J.

Potentiometer with low shaft torque (down to 0.003 in.-oz.) can be operated by minute hand of wristwatch. It converts "exceedingly" small mechanical force into corresponding electrical voltage. Unit will carry up to 0.1 amp current, has output sufficient to operate various instruments without amplification. Address: Electro-Mec Laboratory, 225 Broadway, New York 7.

Improved die filer, made by Rice Pump & Machine Co., has work table which can be tilted 15 degrees in four directions (two, formerly) for filing or sawing compound angles. Table also can be quickly leveled to precision limits with new dowel pins, eliminating need for indicator working from a surface plate. Deep-throated overarm has been re-designed to "accommodate practically every filing application." Address: Milwaukee 15.

TEMCO YT-34, production-experienced firm's first original design, competes with

BEECH YT-35, outgrowth of earlier Model 45 Mentor, pioneer economy trainer, and

FAIRCHILD T-31, winner of former evaluations, one-time USAF and Navy contract holder.

Trainer Competition: Fairchild, Beech and Temco

Evaluation at Randolph AFB will correlate student's progress with plane he flew.

By David A. Anderton

On the job evaluation is the unique basis of the Air Force's current trainer competition.

Fairchild's T-31, Beech's YT-34 and Temco's YT-35 will be fighting out this competition, first of its kind, in the blue skies over Randolph AFB, Texas.

The three entries will be flown by groups of AF student pilots in the standard basic training curriculum. Students' prowess will be correlated with the particular plane flown.

Out of this procedure will come recommendations for future trainer procurement—and probably a fat production order for the winner.

▶**Unlike Competitors**—Although intended for the same job—that of training AF pilots—the three planes involved are quite unlike. Gross weight and power of the Fairchild T-31 are more than twice those for the little Temco job. Both the Beechcraft YT-34 and the Temco YT-35 show traces of their personal plane ancestry, the Fairchild entry looks like a World War II fighter.

Trainer specifications provided that the airplanes be two place; that they be capable of night and instrument flying; that they have a range of more than 500 mi. and an endurance of not less than 4 hr.

Those requirements, as they stand, are met by each of the three ships in the evaluation. But how they meet the other performance requirements remains to be seen, and the Air Force is going to find out in this logical competition.

FAIRCHILD T-31

Fairchild's T-31 is an improved version of their earlier XNQ-1 trainer built to Navy specifications. The prototype first flew in October 1946, in 1947 and 1948, the plane underwent evaluation at Patuxent and Randolph AFB.

The T-31 has a low wing and a high bubble canopy which covers both student and instructor positions, adding to the fighter illusion.

Outstanding feature of the ship is the safety cockpit originally sponsored by Navy's BuAer. In this layout, control levers are identified with their functions. For example, the landing gear control is a miniature wheel; the flap control, a miniature airfoil section.

Biggest and heaviest of the three trainers, the T-31 has a wingspan of 41 ft. 4½ in. Its overall length is 27 ft. 10⅞ in. In the three-point attitude, height over the canopy is 8 ft. 9⅞ in.

Gross weight of the craft is 3900 lb.

Power is supplied by a Lycoming R-680-13 radial engine, normally rated at 280 hp., with 300 hp. available for takeoff. A Hamilton Standard two bladed, constant speed prop is fitted.

▶**Performance**—After an 1190 ft. run to takeoff and clear a 50 ft. obstacle, the T-31 climbs at 1070 fpm. Service ceiling is 19,500 ft.

Cruise is at 158 mph., with the maximum speed figure at 171 mph.

Stalling speed with full flaps and half fuel is 55.6 mph.

▶**Changes From XNQ**—Seven differences between the T-31 and its predecessor are noted. VHF and ADF radio have been installed, a new instrument flying hood has been provided. Lighting changes include new landing gear lights on the wing which indicate the gear position to tower operators, possibly saving lots of wheels-up landing. Instrument lighting is in conformance with the latest AF training specs. For improved ground handling, a larger capacity brake system is installed, along with a steerable tail wheel.

Cockpit comfortization is improved with a revamped ventilation system.

▶**One Time Winner**—Fairchild is, of course, hoping for a repeat on its earlier competition win. That time (March 1949) Fairchild and the USAF released information on an order for 100 T-31 airplanes. But later changes in requirements and considerations of the overall AF program knocked that out.

The Fairchild T-31 enters the competition with over one thousand operational hours of flight time stacked up behind it, and a record as a past winner.

BEECHCRAFT YT-34

Beech's new trainer is the outgrowth of their earlier Mentor, a logical, but unsuccessful, bidder for Air Force notice. Only three Mentors were built (all with Beech funds), but another 18 months of development, flight testing and engineering followed their building. From all this came the YT-34, of which two were delivered to the AF early this month.

Basic layout of the airplane is clean and conventional, with a low winged configuration used. Outstanding recognition feature on this plane, as with its two competitors, is the large canopy.

Full instrumentation and radio are installed, so that the student pilot can do either partial or full panel instrument work under the hood. He can also practice radio range orientation.

That bugaboo of trainers past, inability of the instructor to see ahead of the plane, has been eliminated in the Beech entry. The rear seat occupant has enough room overhead to raise the seat to a level above the student's. This feature, coupled with the low slung position of the engine makes seeing over the nose a reality.

Tricky feature is the use of a taxi light mounted on the nose wheel strut. The light saves using the main landing lights, and cuts down glare.

Wing span of the YT-34 is 32 ft. 9⅜ in.; overall length, 25 ft. 10⅛ in.; height in three-point attitude, 9 ft. 7 in. Takeoff gross weight is 2750 lb.

Power comes from a Continental E-225-8 engine driving an all-metal, constant speed Beech propeller.

▶**Performance**—At a 2600 lb. gross weight (corresponding to takeoff gross less half fuel), ground acceleration of the plane is rapid. At takeoff, the 50 ft. obstacle height passes underneath 918 ft. from the start.

During the first minute, the YT-34 climbs 1210 ft. After reaching 10,000 ft., the plane cruises at a true airspeed of 167 mph., with the throttle set for 60 percent power. Service ceiling comes at 21,200 ft.

In a dive from altitude, the design airspeed is limited to 280 mph. On the deck, the Beech slams along at 188 mph.

Coming in for a landing, Beech's trainer maintains a 54.3 mph. speed with flaps full down. Aileron control is fully effective throughout the landing path and on to the ground. And on the runway, directional stability is assured by tricycle gear.

For short fields, the YT-34 can be brought to a stop, after clearing a 50 ft. obstacle, in 820 ft.

▶**Pilots' Reports**—Several hundred hours of flight time have been hung up on the Mentors and the YT-34s, not only by Beech pilots, but also by those wring-out specialists, Betty Skelton and Bevo Howard. They all seem to concur, says Beech, that the aircraft has excellent flight characteristics.

For aerobatics, the trainer qualifies with an ultimate load factor of 10, claimed to be the highest among today's trainers.

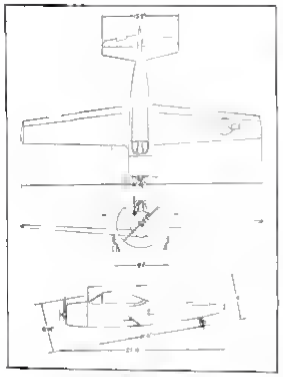
In maneuvers, the craft shows a rapid rate of roll, with little needed correction for adverse yaw. Aileron rolls can be accomplished at either very low speeds or at the more usual entry speeds near cruising. Snap rolls at 120 mph. require only light control forces.

At 100 mph. on the clock, the YT-34 can be rolled inverted and then climbed 300 ft. before the stall.

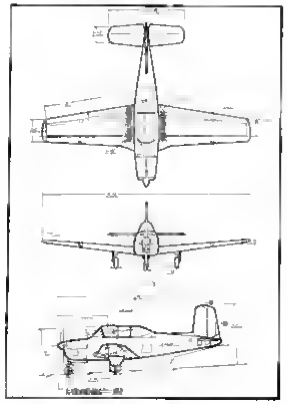
Power-on stalls in the more-conventional configuration with gear and flaps down, comes at 50 mph. Stall warning is given by noticeable tail buffeting.

▶**Same, Only Cheaper**—In general, the performance of the YT-34 follows in the same pattern of the 650-hp. T-6—but it only needs one-third the power to do so.

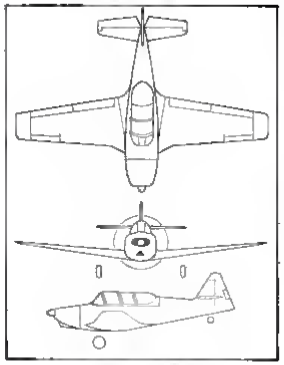
Somebody has taken the trouble to estimate that each Beech would save 150,000 gal. of aviation fuel during a five-year period over that needed for the T-6, figuring a utilization of 5 hours per day. There would also be, said the



FAIRCHILD T-31



BEECH YT-34



TEMCO YT-35

same estimator, savings in engine maintenance in the amount of $9750.

► First Orders—Pilot quantity order for three trainers was placed by the Air Force last March with the Beech concern. The ships were hand-built in the experimental shop.

The YT-34 goes into service testing carrying an ATC under Part 111 of the Civil Air Regulations. According to CAA, this is the first airplane to be so certificated and subsequently accepted by the Air Force.

Production hasn't been mentioned, but if necessary, Beech could probably exceed the nine per day peak they hit with Bonanza production.

TEMCO YT-35

Temco's entry stems from that company's familiarity with the North American T-6 trainer and F-51 fighter (which they built in some quantity during the recent fracas) and, at the other end of the scale, with the Globe Swift (which they manufactured, acquired with Globe's exit from the aircraft manufacturing business, and improved).

The YT-35 Buckaroo was designed to have flight characteristics similar to the T-6 and F-51—but with the extra stability, safety and economy which are prime requirements in the design of trainer aircraft.

Buckaroo sports a conventional landing gear. Wings and horizontal tail are Mustangish, and it must be the vertical tail that gives the side view some of the appearance of the T-6 trainer.

An Air Force standardized cockpit layout is used for student and instructor positions, and a full complement of instruments can be provided.

Biggest claim for the Buckaroo is its fuel economy. At most economical cruise, only 7 gph. is drawn from the tanks.

Added attraction is the provision for the installation of two .30 cal. machine guns mounted internally in the wing just outboard of the landing gear. This feature, reminiscent of the Waco and other trainers of the '30s, is intended to appeal to countries operating on a military budget which has had the fat cut out of it. Israel, for instance, has bought one Buckaroo for evaluation by their Air Force.

A tiny plane, the Temco spans 29 ft. 10 in. Overall length and height are 21 ft. 8 in. and 6 ft. 4 in. respectively.

Continental powers this one, too—a model C-145-2HD engine swings a 6 ft. 2 in. Koppers controllable prop.

Normal gross weight for the Buckaroo is 1920 lb.

► Performance—Ground handling characteristics of the Buckaroo are claimed to be exceptional, a claim rising out of the wide tread (9 ft. 8½ in.) and forward location of the landing gear. A steerable tailwheel further aids taxying.

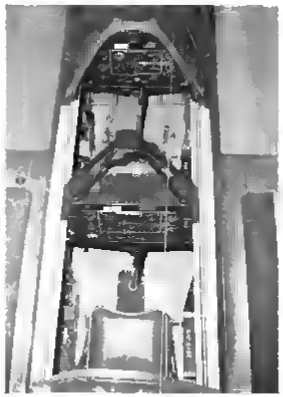
Unsticking distance at takeoff with zero wind, half flaps and gross weight of 1920 lb. is 475 ft. At 985 ft. from the start, the 50 ft. obstacle height is cleared.

Initial rate of climb is better than 925 fpm., at a climb angle of 14 deg. At 3000 ft., Buckaroo is going up at 750 fpm., at 5000 ft., the rate of climb is 600 fpm.

Most economical cruise condition is 132 mph. true airspeed at 5000 ft. In this condition, fuel consumption is 7 gph.

Coming down, maximum dive speed is 218 mph. indicated airspeed.

Approach speed at full gross is recommended as 70 mph., landing speed with full flaps is down around 56 mph. Aileron control stays in during the



T-31 COCKPIT is simple, complete, tidy, features functional design of controls.

YT-35 COWLING is engineered for most efficient handling of cooling air.

whole approach and right on through touchdown.

▶ **Aerobatics**—All standard maneuvers can be performed by the Buckaroo with entries at normal flying speeds.

Stalls are normal with no tendency to fall off on either wing. Warning comes in the form of tail buffeting. Ailerons hold effectiveness completely through the stall (because of the slotted wing) and coordinated turns can be made at stalling speed.

Spins are done with the nose well down, and show no tendency to flatten. Recovery is positive, accomplished in 1½ turns after a 5 turn spin.

▶ **Aluminum Alloy Used**—Most of the Buckaroo's structure is aluminum alloy, with the exception of the movable controls and canopy frames, which are magnesium. Steel forged fittings attach wings and stabilizer. Heavy gage skin is used throughout, and walkways are extra heavy.

Wherever possible, right and left hand units are interchangeable.

The airplane has been sectionalized for ease of assembly and repair. Wing, for example, is made up of tips, outer panels and center section. Average replacement time for a wingtip is ½ man-hour, for an outer panel, 1 man hour, for a center section complete, 10 man hours.

Complete engine change can be made in as little as 4 man-hours, using no specialized equipment.

▶ **Initial Order**—In May, receipt of a USAF order for three Buckaroos was announced by Temco. At the same time, it was stated that one Buckaroo had been shipped to Israel for evaluation by the Israeli Air Force.

▶ **Epilogue**—There is, of course, much more to any competition than meets the eye. The choice here should be a difficult one to make, and a possible difficulty is lack of enough sample student flights to get any real statistical analysis of plane performance.

On a basis of pure low cost, Temco would probably come off best; but the YT-35 is their first design. Temco's previous experience has been only with building other people's airplanes.

Performance wise, Beech's YT-34 seems to do a better job than its rivals, having ceiling, climb and speed advantages over the other two.

But the real test will come when student pilots have hung up operational hours on all three, and when the planes have been subjected to all the indignities produced by students. Then the Air Force will know a lot more about training aircraft than they now do, so will Fairchild, Beech and Temco.

Out of that experience should come the final choice of a standard basic trainer for fledgling pilots.

SO-6020 Espadon: First model of this jet fighter had intake below aft fuselage, corrected in this version with side intakes.

SO 4000: Twin-jet bomber, which had not yet flown as of last month. Cockpit holds two in tandem. Fuselage holds fuel.

France Pushes Plane Production

In France's progress along the road to aeronautical parity with other major powers, one factor stands out strongly—consistent effort.

France's endeavor is emphasized because even though its production on major types has been comparatively small, considerable achievement is indicated from what was practically a postwar scratch start in a trying economic period.

Five of its constructors are nationalized, but one of these is no longer in production. In addition, there are some 16 private companies engaged in aircraft construction.

The accompanying tabulation, based on latest information, shows the status of nationalized company activities.

SO-6025 Espadon: This comparatively new experimental jet has an intake in front part of belly duct, aft part housing rocket unit.

V G 90: This sleek Naval jet fighter has wide landing gear tread under 39½ ft. wing span. Single seater first flew late last year.

SO-1110 Ariel: Two-place helicopter has rotor driven by tip jets supplied by compressor coupled to 220-hp., 6-cylinder air-cooled Mathis G8 engine. Boom carries twin fins. Maximum speed is just under 100 mph., cruising speed about 77 mph.

Status of French Planes →

Aircraft Production of French Nationalized Companies

AIRCRAFT	FIRST FLIGHT	TYPE	PRODUCTION
Arsenal de l'Aeronautique			
V B 10	7– 7–1945	Fighter	Only 3 built.
Arsenal 0 101	10–10–1947	Research	Only 1 built.
V G 70*	6–23–1948	Experimental	Only 1 built.
V G 90*	9–27–1949	Fighter (naval)	2 prototypes; first destroyed. Production is contemplated.
Air 100	6–10–1947	Glider	2 prototypes, 10 constructed
Arsenal 4111	6–11–1949	Glider	2 prototypes. No production contemplated
20 Arsenal 5.501 in production. Guided missiles actually tested.			
S N C A.C (no more production)			
(Societe Nationale de Construction Aeronautique du Centre)			
NC–211 Cormoran	7–20–1945	Cargo	Only 2 built, 1 destroyed.
NC–271	1–28–1949	Flying model	Only 1 built
NC–701, 702 Martinet	11–1944	Feederline plane	350 built
NC–840 Chardonneret.	11– 3–1947	Touring plane	Only 2 built
NC–853	3–15–1948	Trainer	2 prototypes. Production of 140
NC–856	3–12–1949	Utility	2 prototypes. Limited production
NC–860	3–28–1949	Utility	Only 1 built.
NC–1070	8–23–1947	Experimental	1 prototype. Modified into 1071.
NC–1071**	10–12–1948	Trainer	Only 1 built.
NC–1080*	7–29–1949	Fighter (naval)	Only 1 built (destroyed)
NC–2001	6–1949	Helicopter	Only 3 built.
(Some of these aircraft are in production at S.N C.A.N.)			
S N C.A.S E			
(Societe Nationale de Constructions Aeronautiques du Sud-Est)			
SE–1010	11–24–1948	Research, Photographic	1 prototype (destroyed), 3 built
SE–1210	6– 9–1948	Flying Model	1 prototype ⅓ scale of SE–1200
SE–2010	4– 2–1949	Heavy transport	1 prototype (destroyed); 15 in production
SE–2100	4–30–1945	Touring	Only 1 built (all-wing)
SE–2300–10 and 11	10–26–1945	Touring	Only 3 built.
SE–2410**	4–30–1950	Bomber fighter	1 prototype under test
SE–3000	10–23–1948	Helicopter	1 prototype; 2 in production.
SE–3101	6–16–1948	Helicopter	1 experimental
SE–3110	6–10–1950	Helicopter	1 prototype Prod. planned
Vampire with Hispano-Suiza Nene in production (number to be produced restricted)			

* Jet-propelled plane. Number of asterisks indicates number of engines.

AIRCRAFT	FIRST FLIGHT	TYPE	PRODUCTION
S N C.A N			
(Societe Nationale de Constructions Aeronautiques du Nord)			
SV 4 Stampe	6–1945	Trainer	Belgium license, 700 in service
Nord 1001, 1002	9–1944	Liaison, Trainer	250 built.
Nord 1100 Noralpha	5–1946	Touring	205 built
Nord 1200 Norecrin.	12–15–1945	Touring	320 built.
Nord 1221 Norelan	6–30–1948	Trainer, Acrobatic	Only 3 built
Nord 1400–2 Noret.	1– 6–1949	Rescue (naval)	3 prototypes, 25 built
Nord 1500 Noreclair	8–29–1947	Torpedo (naval)	Only 1 built
Nord 1601**	1–24–1950	Experimental	1 prototype under test.
Nord 1700		Experimental	1 prototype.
Nord 1710		Observation	1 prototype. Prod planned
Nord 2100	4–30–1947	Light transport	Only 2 built
Nord 2200**	12–16–1949	Fighter (naval)	1 prototype (damaged).
Nord–2500 Noratlas.	9–10–1949	Cargo (military)	2 prototypes. Prod planned.
Nord–2800		Trainer, Acrobatic	1 prototype Prod planned
C–800	8–1945	Training glider	270 in service.
Nord 1300	4–1946	Training glider	265 in service
Nord 2000	6–1947	Glider	100 in service
325 Goelands (in production before the war) were built for the Air Force			
S N.C.A S O			
(Societe Nationale de Constructions Aeronautiques du Sud-Ouest)			
SO–30 P Bretagne	12–11–1947	Medium transport	4 prototypes, 45 in production
SO–94	3– 6–1947	Trainer (naval)	Production of 15
SO–95 Corse	7–17–1947	Light transport	1 prototype, 15 built, 45 in production
SO–1100 Ariel	6– 8–1949	Experimental Helicopter	2 prototypes.
SO–4000**	Ground test	Bomber	1 prototype. Prod. planned.
SO–6000 Triton*	11–11–1946	Trainer	4 prototypes
SO–6020 Espadon*	11–12–1948	Fighter	Only 2 built
SO–6021*	Ground test	Fighter	1 prototype Prod planned.
SO–7010 Pegase	2–27–1948	Light transport	Only 1 built
SO–7060 Deauville	3–22–1949	Touring	2 prototypes in production
SO–8000 Narval	4– 1–1949	Bomber-fighter	Only 2 built (naval)
SO–M1	9–26–1949	Experimental model	1 prototype (glider plus rocket)
SO–M2*	4–13–1949	Experimental model	1 prototype (half scale of SO–4000)
SO–6025*	12–28–1949	Experimental	Only 1 built.

Plenty of Aircraft Aluminum Seen

But supply will be tight and may require rationing, control of exports and non-military domestic uses.

Military aircraft producers will get all the aluminum they need, and as fast as they need it. But it's going to mean controls, and shortages for other industrial users. Both exports and domestic supplies will have to be rationed.

U. S. aluminum production is running at the rate of 1300 million lb. a year, and demands have been exceeding this figure for some time. The 260 million lb. rough estimate of this year's military needs will put the squeeze on already tight supplies. It may even mean that some producers of civilian items may have to drop certain lines. Next year's military bite will be even greater.

▶ **Expansion Plans**—But, the aluminum industry has plans for expanding its production by at least 200 million lb. a year, maybe 320 million lb. There's a good chance that the U. S. may be able to buy more primary aluminum from Canada, possibly as much as 200 million lb. annually.

While primary aluminum is bound to continue tight, the industry sees no possibility of any shortage developing in fabricating facilities. In fact, industry leaders told the Munitions Board Light Metals Advisory Committee last week that, in an emergency, they could handle double the fabricating business they are doing now.

▶ **Plan Outlined**—A Munitions Board plan to sell potlines and rectifiers out of defense reserve reduction plants at Riverbank, Calif., and Burlington, N. J., to private industry will account for the biggest production increase.

If the deal goes through, it will bring two new primary producers into the field. Here's how the proposition shapes up:

- **Apex Smelting Co.**, Chicago, Ill., now a scrap smelter, would get one potline and one rectifier line for installation near Grand River Dam, Okla.
- **Harvey Machine Co.**, Torrance, Calif., an aluminum extruder, would purchase one line of rectifiers for a new reduction plant to be built near Hungry Horse Dam, Mont.
- **Reynolds Metals Co.** would get one rectifier line and one potline to add to its present 144 million lb.-a-year Jones Mill, Ark., plant.
- **Kaiser Chemical and Aluminum Corp.** would buy the remaining two potlines and one rectifier line for use in a new plant in Ohio, just across the river from New Haven, W. Va.

All equipment sales will be contingent on production within a year.

▶ **Needs Still Uncertain**—Odds are the sales will go through as planned, though some of the buyers have expressed reluctance to make the step until they know just how much aluminum the military will need over the next few years. These figures won't be available until December of this year.

If Alcoa can make some kind of a deal for keeping its old Massena, N. Y., plant in operation, another 115 million lb. will be added to current production. Alcoa's plans now are to shut down as soon as it gets its recently purchased Defense Plant Corp. plant into production nearby. Reason is that there isn't enough cheap St. Lawrence River power to run them both.

There's a chance the government might pay Alcoa to operate the plant for stockpiling. Utility companies

nearby have promised they can supply the power, though at high cost

► **Canada Can Help**—Altogether, this would raise current production to 1600 million lb annually. A clue to whether aluminum will really be short for non-essential users will be found in whether or not Aluminum Company of Canada can boost its exports to the U. S. Alcan is now producing at the rate of about 750 million lb a year, against a capacity of 950 million lb. If this difference were shipped to the U. S., odds are that shortages would be slight and spotty unless the military materially raises its sights again.

One thing is pretty certain. Washington will quickly set up domestic allocation controls on aluminum and conservation export controls as well. Demands due to military aircraft orders aren't expected to be felt much for some months, but Washington wants controls just in case.

Control of domestic aluminum uses can be expected soon after President Truman signs the Defense Production Act of 1950. Export controls for conservation purposes may come even sooner.

PRODUCTION BRIEFING

► **Beech Aircraft Corp.** has exercised its option to rent Herrington Airport from that city. Company officials declined to comment on the move except to say that they were anticipating need for space which would accommodate large planes. The base was used in World War II as a B-29 modification center.

► **Boeing Airplane Co.** has purchased a sizeable quantity of A-12D Sperry Gyropilots for installation in B-47B bombers.

► **Kollsman Instrument division** of Square D Co. has reduced Synchrotel prices 45 percent below the original prices of the laboratory made units. Prices are now $45-$75, depending on quantity purchased. Reduction was made possible by recently introduced standard tooling and methods.

► **Lear, Inc.** has acquired the balance of 9600 sq. ft. of space in its main building at Grand Rapids, Mich., upping main plant area to 130,600 sq. ft.

► **Skyline Products, Inc.**, Jamaica, N. Y., has received an order from American Airlines to modify 34 DC-6 buffet assemblies. The company previously completed engineering and development of a prototype redesigned unit of buffet equipment to be installed in DC-6Bs currently on order with Douglas.

COINS STAND ON EDGE and water doesn't spill in vibration-free cabin of Viscount.

Passenger Reaction to Turboprop

BEA assigns Viscount prototype to busy London-Paris route, and here's what the customers think about it.

By Frederick R. Brewster

(McGraw-Hill World News)

London—The time is past for questioning whether or not turbine-powered airliners are coming. They're here.

The traveling public now has its first chance of experiencing the comfort of the turboprop transport's quiet, vibration-free flight.

The airline operator, too, can begin to size up passenger response to tomorrow's turbine planes compared with today's piston craft.

British European Airways, first operator to place a firm order for the Vickers Armstrongs' Viscount turboprop airliner, jumped the gun Aug. 3, and placed the prototype Viscount in regular operation between London and Paris, making two round trips a day. Then beginning Aug. 15, the Viscount was scheduled to ply between London and Edinburgh once a day for a week to take some of the peak passenger loads confronting BEA as the Edinburgh Festival opened.

After Aug. 22 the Viscount was to be operated between London and Paris as often as passenger traffic warrants it, to train BEA's crews and the air traffic controllers of the London zone.

The Viscount is replacing BEA's piston Vikings on the Paris service and Dakotas (DC-3s) on the Edinburgh route. No extra charge is being made. But although the Viscount flights are being regularly scheduled, there is no guarantee to the passenger booking a seat that he'll be flying in a Viscount on that particular service.

►**First Trip**—Your correspondent was on the first trip to Paris on Aug. 3. But two pre-inaugural flights had been made earlier—one July 28, with no revenue passengers, and another on July 29, with a number of British aviation big wigs, including Sir Frank Whittle, creator of the gas-turbine engine.

On this same flight, a number of Americans, including PAA's Atlantic District sales manager, D. J. Mokeri, found themselves aboard as revenue passengers, although booked for the regular BEA service.

The prototype Viscount had been tipped to fly a second section of the regular London-to-Paris flight 329 on this day, a Saturday—because BEA was faced with some of its heaviest traffic of the summer to the Continent and rounded up every available plane. The same situation occurred in succeeding weeks.

►**Fastest Service**—Taking off at 12:56 pm. from Northolt Airport, the Viscount touched down at Paris (Le Bourget) 57 min. later, a reduction of 33 min. from the regular scheduled time of 90 min. for the service.

This was probably the fastest scheduled passenger service between London and Paris and certainly the fastest between Northolt and LeBourget.

And, judging by the flight made on Aug. 3 by your correspondent, it was certainly a big step forward in flight comfort.

BEA took care to inform its passengers on the regular services flown by the Viscount that they were among the first to experience the newest and finest standard of airliner accommodation—and reminded them that BEA had ordered 28 of these Viscounts in a slightly larger version which will begin regular service on BEA's routes in the spring of 1953.

►**Quiet Comfort**—Early analysis of passenger comments shows a definite appreciation of the quietness and almost vibrationless comfort of the Viscount with its four Rolls-Royce Dart turboprops. Indeed, the whine of the cabin-pressurization blower is more noticeable to the ear than the smoothly rotating turbine and propeller. When the silencers now being developed for the

Viscount Flight

Here are BEA's figures for the first turboprop Viscount London-Paris passenger flight:

Distance: 237 statute mi.
Takeoff weight: 42,500 lb. (each engine delivering 1125 shp. at 14,500 rpm.)
Fuel weight: 5305 lb. (ample for an endurance of 2 hr. 14 min., or London-Paris and return, plus 25 min. reserve)
Payload: 6765 lb.
Actual flight time: 57 min.
Block-to-block time: 1 hr. 6 min.
Block speed: 216 mph.
Fuel consumption: 325 imperial gal. (296 gph. or 11.11 lb./mi.)
Fuel consumption during climb: 300 gph.
Fuel consumption during cruise: 285 gph.
Fuel consumption during descent: 165 gph.

Cruising at 10,500 ft., at a true air speed of 265 mph., at 13,500 rpm., the engines deliver 625 shp. each.

For cruising at 18,000 ft. (the service ceiling of the prototype), BEA has the following figures for a typical flight:

Climb stage: would take 25 min., cover 76 nautical mi., use 133 gal. of fuel.
Descent stage: would take 20 min., cover 62 mi., use 52 gal.
Cruise stage: (for London-Paris only) would cover about 99 mi., use 130 gal.

blower fan are fitted—as they will be in the production model Viscounts—this complaint, noted by a few passengers as well as by your correspondent, should be eliminated

Passengers were pleased with the large windows in the Viscount, located so the passenger can comfortably watch the scenery roll by while leaning back in his seat

A few criticisms were received that the pitch of the seats was too upright, and leg-room insufficient because of the fixed-location tables between the paired facing rows of seats, but these objections will probably be attended to in fitting out the more spacious cabins of the production-line Viscounts

▶**Flight Plan**—On the flight made by this writer, the prototype Viscount (displayed last September at the SBAC Show at Farnborough, with its red BEA markings against the silver fuselage) rolled gently to the end of the main east-west runway at Northolt with its full load of 25 passengers

Our turn came to take off. The Viscount swung into place, and without the ear-deafening and bone-shaking full-power run up of the engines that is a familiar and unpleasant part of a piston-engine takeoff, we rumbled down the tarmac and lifted easily into the air after using about two-thirds of the runway length. (Several passengers, in their comments, showed that they noticed and approved this absence of preliminary run-up.)

Almost immediately we were in the clouds and soon above the low overcast, climbing at about 900 fpm, with the indicated airspeed 147 knots (170 mph.) We climbed steadily for 19 min., to 11,500 ft., where we leveled off for the cruise across the Channel. Yet, during the whole of the climb there was no noticeable pressure drop—the cabin was kept pressurized to the equivalent of 1500 ft altitude

When we descended, beginning some 15 minutes before touching down at LeBourget, the pressure was again nicely equalized, and for the first time in all my airline flights, I was not troubled with the discomfort of pressure building up in my ears. We landed just 62 minutes after taking off from Northolt.

▶**Pleasing Contrast**—Before the return flight, when the Viscount was checked over, it was found to have developed a split in the port hydraulic accumulator line, and required several hours work. So it did not make its scheduled departure for London on the first of its roundtrips.

Those passengers that were scheduled for that regular departure flew back two hours later in a regular Viking instead.

The observers had the perfect contrast between the old and the new, the smooth and the quivering, the fleet and the not-so-fleet, the high flying and the cloud-chasing—and ended up more than ever in favor of the turboprop transport.

▶**Production Models**—The production-version Viscount—the 701—will have a greater wingspan, engines spaced wider apart, a longer fuselage and will add an extra luggage compartment in the nose region. This extra baggage space should permit better locating of the plane's center of gravity when the passenger load is somewhat lighter. BEA figures it will operate at an all-up takeoff weight of 50,000 lb., which will give more than double the payload of the prototype. This will permit carrying 40 passengers plus some cargo. The airline plans to operate these turboprop planes at 25,000 ft at a cruising speed of 312 mph., with a fuel consumption at that altitude and speed of 242 gph.

Delivery of these production-model Viscounts will probably not begin until the fall of 1952. And since there will be no advantage in introducing these large-capacity planes during the low-traffic winter period, BEA will probably run them first as freighter planes and for additional crew training. Passenger service will probably begin in the spring of 1953.

When replacing DC-3s on the London-Edinburgh route, the prototype Viscount should cut the scheduled 2 hr 20 mn time to approximately 1 hr 40 mn. Owing to the limited size of Turnhouse Airport at Edinburgh, the Viscount will be limited to a passenger load of 23 on these flights.

▶**Like A Bike**—BEA officials told AVIATION WEEK that there is no problem in conversion-training of aircrews to fly the Viscount—"She handles like a bicycle" was the way they put it. But the real training problem is one of getting the most out of the powerplants for maximum fuel economy. Rolls-Royce and BEA engineers are still tackling this question, and the pilots will have some new tricks to learn before BEA will be able to call the problem licked.

Aerodynamically, however, BEA is fully satisfied with the prototype Viscount—she has been put through every possible kind of test, all kinds of landings and takeoffs—including some with full flap—in the full range of altitudes to be encountered on BEA's services. The prototype holds the full ICAO "A" category certificate, as will the production Viscount once it has undergone the sequence of tests required by Britain's Air Registration Board.

On the Viscount's recent trip around Europe and to Africa, considerable interest was shown by pilots of other airlines, and very few criticisms were offered by them.

▶**Opportunity**—Initial passenger reactions generally have to be discounted since they are obtained under somewhat artificial circumstances.

But by placing the Viscount on a fiercely competitive route (London to Paris), where it will be in direct comparison with piston-engine types, BEA has placed itself in the best possible position to hear the comments of passengers—to note when they begin asking to travel on the Viscount instead of the Vikings, to observe when they switch to BEA's Viscount from some other carrier flying even the latest of postwar piston-engine types.

PLANTATION SPECIAL

Here are a few of the 3,875,000 bagged pineapple tops being flown by Hawaiian Airlines' cargo DC-3 from Maui and Molokai for test seeding in Hawaii. Castle & Cooke, Ltd., sugar factors, are experimenting to see whether some of the company's land, now in sugar, would be more profitably put to use by growing pineapples. The concern found that airlift would do the job faster and more economically. Hawaiian is making 220 flights to handle the job over a two-months period.

BEA has seized an opportunity, too, for confirming in the toughest of proving grounds—regular daily service—whether all its calculations as to operating costs are sound and whether, therefore, the Viscounts will be economical to operate. Other operators may get a glimpse of these figures, but BEA will have the lead on them.

It has always been agreed that the real fillip to sales of turboprop and turbojet transports would come only when such planes were introduced in direct competition with earlier types. BEA, by not waiting until the production models come out, has done Vickers-Armstrongs—and all manufacturers of turbine airliners—a real service.

Carrier Reports

Domestic trunkline net profits remain high, but dip below first-half '49.

Net profits realized by the 16 domestic trunklines in first-half 1950 dipped only slightly below the record peacetime levels achieved during the same period last year.

A continued flow of optimistic traffic reports provides some possibility that 1949's net earnings may still be exceeded when second-half 1950 results are in. From the standpoint of operating profits, the domestic carriers are already far ahead of last year.

▶**Down A Million**—The 16 trunklines made $5,305,320 net profit on domestic services in the first six months of 1950, compared with $6,511,865 last year. Operating profits rose from about $10.5 million in first-half 1949 to around $13.5 million in first-half 1950.

Thirteen of the 16 carriers made money during the first six months of 1950. Only ten were in the black in the same period last year.

Biggest domestic earnings gains over last year were scored by Braniff Airways, Delta Air Lines, Eastern Air Lines, National Airlines, TWA, United Air Lines and Western Air Lines. Northwest Airlines, which lost $4,714,630 in first-half 1950, compared with a $334,006 deficit in the same 1949 period, suffered the greatest financial setback. American Airlines (hurt by a strike in March) and Colonial Airlines were also on the downside.

▶**Dividend Declared**—American's earnings during the second quarter bounced back so strongly that the carrier has declared a 25-cents-a-share dividend on its common stock payable Sept. 15. It was AA's first common stock dividend since 1945.

Airline Profits

First-half 1950 and 1949
(Domestic operations only)

Carrier	1950	1949
American	$3,485,090	$3,492,115
Braniff	583,634	18,807
Capital	375,762	882,137
C & S	142,432	202,197
Colonial	(355,325)	88,889
Continental	1,304	(148,884)
Delta	877,295	312,810
Eastern	2,848,208	3,582,862
Inland	114,169	110,488
Mid Cont.	154,282	148,408
National	1,485,447	864,932
Northeast	(288,901)	(110,324)
Northwest	(4,714,680)	(634,030)
TWA	702,785	(687,348)
United	839,457	(523,810)
Western	78,840	(73,829)
Totals	$8,366,320	$8,812,868

Parentheses indicate deficit.

Sharp gains in domestic operating revenues during first-half 1950 resulted from an 11 percent increase in revenue passenger-miles flown and hikes of 25 and 19 percent, respectively, in express- and freight-ton miles flown. First reports on summer business were also encouraging.

United flew 8¼ percent more passenger miles in July than in the same month last year. Its freight volume was up 51 percent, express 35 percent and mail 15 percent.

National Airlines disclosed a $52,000 operating profit in July, compared with a $93,600 loss in the same month last year. July is usually a slack month for NAL. The carrier attributed its improved performance to an aggressive sales effort, continued popularity of excursion and family fares, the availability of low rate air coach service, and Florida's burgeoning as a summer resort.

▶ **Feeders Gain**—A number of feeder lines are also showing signs of recuperation from a pallid financial past. Trans-Texas Airways, which suffered a $244,000 operating loss during first half 1949, had a $44,850 operating profit during the same period this year.

Several of the short-haul carriers boasted impressive passenger load factors during June. Wisconsin Central Airlines reported that nearly 54 percent of its seats were filled during the month, Southwest Airways reached 51 percent, Robinson Airlines 44 percent, West Coast Airlines 42 percent and Pioneer Air Lines 41 percent.

In July, Wisconsin Central's passenger traffic soared 22 percent above the same month last year.

▶ **Cargo-Line Strength**—Two certificated all-cargo lines, Slick Airways and the Flying Tiger Line, have made financial gains over 1949. With the help of a $63,281 second-quarter profit, Slick cut its first-half 1950 net loss to $84,506. The Tigers' $511,638 first-half profit was substantially more than the $275,322 earned during all of last year.

U. S. international carriers showed no consistent improvement in earnings. Northwest Airlines turned in a $1,256,233 first-half profit on trans-Pacific service, and TWA earned $733,366 net.

But American Overseas Airlines had an $837,000 net loss; United was $998,000 in the red on its West Coast-Hawaii route, Colonial dropped $66,000 on its Bermuda operations, and Braniff lost $161,000 on its Latin American services. (Pan American Airways' earnings continue to be clouded by mail pay uncertainties.)

▶ **Excess Profits**—While Northwest's profits on international routes partially offset domestic losses early this year, it is likely that the carrier's Pacific route will not pay off so handsomely in the future. The Civil Aeronautics Board has ordered the carrier to show cause why its Pacific mail revenues shouldn't be cut by more than $1.3 million annually starting Aug. 1, 1950.

If steadily rising costs and threatened labor disputes don't slash airline earnings during the remainder of the year, CAB is likely to turn up other instances where mail rates need downward revision. Thus the same mechanism which saved a number of carriers from bankruptcy between 1946 and 1948 will be used with increasing frequency to prevent an "excessive rate of return" on airlines investments.

Mexican Airlines Make Freight Pact

(McGraw-Hill World News)

Mexico City—Mexico's three top domestic airlines have agreed to accept air freight consigned for any one of them.

Under the agreement, which went into effect this week, air express shipments may be given to the offices or pick-ups of any one of the three who will forward it by the proper line. This covers most Mexican air points.

The lines involved are Cia. Mexicana de Aviacion (PanAm affiliate), Lineas Aereas Mexicanas S. A. (United Air Lines affiliate), and Aeronaves de Mexico.

SHORTLINES

▶ **Air Express**—Shipments for the first six months of 1950 increased 23.3 percent over shipments in the same period for 1949, the Air Express division of Railway Express Agency reports. Nearly 2 million shipments were carried on U. S. certificated airlines, with gross revenues of $9,197,594, up 25 percent over the same period a year ago.

► **British Commonwealth Pacific Airlines**—Is now offering a "breakfast in bed" service as part of its DC-6 sleeper plane operation across the Pacific from Vancouver and San Francisco to Sydney and Auckland.

► **British European Airways**—Reports a big summer vacation and tourist airlift nicknamed the "bucket and spade" service, on its Channel Island runs. In eight days, a total of 10,313 passengers were flown in and out of Jersey, Guernsey and Alderney Islands, in 960 landings and takeoffs. Twenty-eight passenger Dakotas (DC-3s) and smaller Dragon Rapides planes were used. Peak day saw handling of 2101 passengers at Jersey airport, plus 715 on the two smaller islands.

► **Capital Airlines**—Reported an operating profit of $614,560 for the six months ending June 30, as compared to $345,329 for the same period the previous year. Net income after taxes was $300,260 in the first half of 1950 as compared to $92,035 for the comparable period in 1949. The increase was due to step-ups in passenger revenue (from $8,918,070 to $9,604,151) and in cargo revenue (from $928,419 to $1,118,913). Air mail pay declined $138,684 in the same period, despite an increase of almost 40 percent in the ton miles of mail carried.

► **Colonial Airlines**—Passenger traffic to Bermuda in July showed an increase of 189 percent over the July 1949 traffic, with early indications showing a comparable or even higher Bermuda passenger traffic increase for August. The traffic boosts are attributed to Colonial's fare reductions, plus lowering of hotel and guest house rates at the resort.

► **Pan American World Airways**—Has stepped up its low-cost tourist Clipper service between Miami and Panama by adding a fifth weekly roundtrip, continuing through Sept. 16, the peak vacation period for Canal Zone residents.

► **Pioneer Air Lines**—Has been awarded a Highest Merit Award by Financial World Magazine for its 1949 annual report.

► **Sabena**—Was to begin helicopter air mail service in Belgium last week with a four-hour roundtrip starting and ending at Brussels. Mail pickups were scheduled at eight communities, using football fields and other relatively small areas as landing facilities.

► **Trans World Airlines**—Plans to start New York-Kansas City service Sept. 1 with Martin 2-0-2-As. There will be two westbound flights and two eastbound flights daily. Frequency will be increased to 12 schedules Sept. 24. First schedules will serve Philadelphia, Pittsburgh, Columbus, Dayton, Chicago and Kansas City. Later Indianapolis, Cincinnati, Louisville and St. Louis will be served.

► **United Air Lines**—Chalked up new records for July, 1950, with an estimated 150,411,000 revenue passenger miles, a gain of 8¼ percent over July, 1949, and only 2½ percent below the record of June, 1950,—busiest month in the 24 years of the airline's operation.

► **West Coast Airlines**—Reports completion of its program to bring all-weather instrument operations to all its terminals, with CAA approval of new let down procedures at McMinnville and Albany Corvallis airports. Heretofore restricted to 3000-ft. ceilings and unlimited visibility. New minimums of 1000 ft. and one mile have been approved, and further reduction in ceiling minimums are expected within six months.

CAB SCHEDULE

Aug. 28—Hearing on control and relationships of Kessler, Robin Airways et al. (Docket 3942)

Aug. 28—Hearing on CAB's enforcement action against Air Transport Associates (Docket 4266)

Sept. 11—Hearing on Lehman Brothers interlocking relationships case involving partners of firm holding airline directorships. (Docket 3665 et al)

Sept. 11—Hearing on enforcement proceeding involving interlocking relationships between Arrow Airways, Inc. and California Arrow. (Docket 4207)

Sept. 11—Hearing on applications of Aerovias 'Q' and Companie Cubana de Aviacion for Havana-Washington-New York foreign air carrier permits. (Dockets 3218 and 4187)

Sept. 18—Hearing on TWA and American Overseas Airlines requests to suspend service at Philadelphia on trans-Atlantic routes. Postponed from Aug. 7. (Docket 4228 et al)

Sept. 21—Prehearing conference on American Overseas Airlines' mail rate. (Docket 1569)

Sept. 25—Hearing on Board investigation of all expense fares of Eastern Air Lines et al. (Docket 4443 et al)

Sept. 26—Hearings on Mid-Continent Airlines' application to have its Route 86 certificate (Tulsa-Houston) made permanent. (Docket 3933)

Oct. 5—Hearing on renewal of Frontier Airlines' feeder certificate and service suspension at two United Air Lines' stops in the area. (Docket 4343)

Oct. 5—Hearing in Latin American Airfreight case. (Docket 2889 et al)

Oct. 16—Hearings on Los Angeles Airways' application for renewal of its helicopter mail cargo certificate and for additional authority to carry passengers. (Docket 3967)

Dec. 11—Hearing on Board investigation of West Coast passenger fare structure. (Docket 4656)

Jan. 8, 1951—Hearing in Big Four mail rate case and CAB investigation of the carriers' economy and efficiency. (Docket 2849 et al)

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WHAT'S NEW

Telling the Market

Airlines officials and plane makers should be interested in newly released **Aircraft Seat Manual** prepared by Burns Aero Seat Co., permitting insertion of monthly bulletins to keep volume up to date Write company at Burbank, Calif.

Aviation Catalog published by Purolator Products, Inc, is handy reference describing various aircraft fuel, oil, air and hydraulic filters produced by the concern. Write Purolator at Rahway, N J. . . Overseas airline executives and flight crews can obtain pamphlet describing CAA's services to such carriers and crews It's entitled **Facilities Directory** and can be obtained from New York Overseas Foreign Aeronautical Communications Station, LaGuardia Field, N Y. . . Two technical bulletins on properties of high-nickel alloys have been issued by The International Nickel Co, Inc **Booklet T-7** covers engineering properties of Inconel and Inconel X, **Bulletin T-9** deals with K and KR Monels Write Technical Editor of the company at 67 Wall St., New York 5, N Y . . . **Certified Job Study No 97** is aimed at freight and cargo carriers showing how Towmotor products reduce terminal storage and save materials handling time Write Towmotor Corp, 1226 E 152 St, Cleveland, Ohio . . . Administrative management will be interested in booklet **How to Increase Profitable Sales** telling how machines and systems may be used to compile sales analysis facts and utilize them for checking sales by individual accounts, by prospects by salesmen and by territory Write Remington Rand, Inc, 315 Fourth Ave, New York 10, N Y . . . **Catalog 10** on Powercon vibrator converters covers 22 models in five different types Cornell-Dubilier Electric Corp, So Plainfield N J . . . **Bulletin 601A** describes Type 150 VD medium impact shock machine for testing airborne electronic equipment Available from Barry Corp, 179-F Sidney St, Cambridge Mass

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Courses in several fields of mechanical technology, applicable to aircraft design, are to be offered during the fall semester of the Extension Division, Institute of Applied Arts and Sciences, State University of New York

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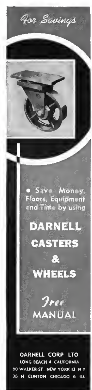

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EDITORIAL

Mr. Ryan and His Voting Record

Some propagandists contend that you can make the people believe anything if you repeat a statement often enough. For some time now we have been noting occasional but persistent references by one or two writers to the effect that the Civil Aeronautics Board's vice chairman, Oswald Ryan, is a "friend of Pan American," or a "long time advocate of the chosen instrument."

In our book, the acid test of a public official's views is his voting record. The other day, we asked Mr. Ryan for the details of his voting record involving cases which did or could affect PanAm and/or the chosen instrument.

In the public interest, we are glad to devote space on this page to that record, without extraneous opinion or comment. When you have read it, you may decide for yourself. The record follows:

1. American Export Airlines Case (July 12, 1940). This is the earliest case involving competition to Pan American across the North Atlantic. Mr. Ryan voted to award the certificate of convenience and necessity to American Export Airlines to compete with PanAm.

2. On July 7, 1941, Mr. Ryan voted to deny the application of Pan American for the route between Los Angeles and Mexico City.

3. On July 1, 1945, in the important North Atlantic Route Case involving competition across the North Atlantic, Mr. Ryan voted to award American Export Airlines (whose certificate was expiring) and TWA certificates to compete with PanAm across the Atlantic.

4. On June 1, 1945, Mr. Ryan voted to deny the application to extend Pan American to Paris and Rome.

5. On May 17, 1946, Mr. Ryan voted to certificate Eastern Air Lines rather than Pan American for the route from New Orleans to Mexico City.

6. On the same date, he voted to certificate Colonial Airlines to operate a route from the United States to Bermuda in competition with Pan American.

7. On the same date he voted to deny Pan American's application for the route from Houston to the Canal Zone, in competition with the route awarded to Braniff.

8. On the same date, he voted to certificate Chicago and Southern to operate a route between New Orleans, San Juan and Caracas, Venezuela, in competition with Pan American.

9. On the same date he voted to certificate National Airlines to compete with Pan American on a route between Miami and Havana.

10. In the Latin American Case (May 17, 1946), Mr. Ryan and Mr. Branch, constituting one-half of the Board membership at that time, voted to ask Congress for legislation to divest Pan American control of Panagra and to extend Panagra into the United States to compete with Pan American as an independent air carrier for the South American traffic. They voted against placing a third carrier in South America on the ground that there was not sufficient traffic for three carriers. The two remaining members of the Board voted for authorizing a third carrier. The President then issued a directive to the Board to certificate a third carrier.

11. In the Hawaiian Case (May 17, 1946), Mr. Ryan voted to certificate United Air Lines between San Francisco and Honolulu in competition with Pan American, and in a separate opinion also urged the certification of Hawaiian Airlines for a service between Los Angeles and Honolulu in competition with Pan American.

12. On June 14, 1946, Mr. Ryan voted to deny Pan American's second application for authority to serve Paris and Rome.

13. In a supplementary decision (Nov. 19, 1946), Mr. Ryan voted to deny Pan American's petition for reconsideration of its decision of June 14, 1946, to serve Paris and Rome. In the same case, he voted to deny Pan American's request to serve by exemption certain points certificated to TWA during such time as Pan American was unable to serve its certificated points in the Balkans.

14. On June 20, 1946, in the important Pacific Case, Mr. Ryan voted to certificate Northwest Airlines to compete against Pan American across the Pacific to the Orient, granting Northwest Airlines a route which has a mileage advantage of 1816 miles over Pan American on trips between New York and Tokyo. Mr. Ryan, as acting chairman, cast the deciding vote which provided this competition to Pan American in the Pacific.

15. On Apr. 23, 1947, he voted to deny Pan American an exemption authorizing a direct service between San Juan, Puerto Rico and Caracas, Venezuela.

16. On Mar. 2, 1948, he voted to deny Pan American authority to operate directly between Shanghai and Manila in competition with TWA.

17. In the Pacific Northwest-Hawaiian Service Case (Mar. 16, 1948), Mr. Ryan voted for Pan American in preference to Northwest Airlines to operate a route between Seattle and Honolulu on the ground that Pan American certification would provide a single carrier service from the northwest to Australia and New Zealand which would give competition to ANA, the Australian line which was operating without competition from Australia to an airport within 100 miles of Seattle. Northwest could not provide such benefits because it would be a stub end operation ending at Honolulu.

18. In the Reopened Hawaiian Case, decided May 15, 1950, and approved by the President on August 3, 1950, he voted to certificate United Air Lines between Los Angeles and Hawaii in competition with Pan American.

19. On Jan. 24, 1950, Mr. Ryan, as acting chairman, voted to deny the application of Pan American and Fely Roma for authority to operate to Rome during the Holy Year. His vote was an essential vote making up the majority.

20. Mr. Ryan, on May 17, 1950, in his dissenting opinion in the Pan American-American Overseas merger case, urged approval of the merger agreement, holding that "competition across the Atlantic would not be abandoned by the consummation of the proposed merger. Only the uneconomic and wasteful phases of the existing competitive pattern would be abandoned."

21. On Aug. 1, 1950, he voted with the other members to deny Pan American the system of domestic routes within the United States in the Pan American Airways, Inc. Domestic Route Case.

—Robert H. Wood

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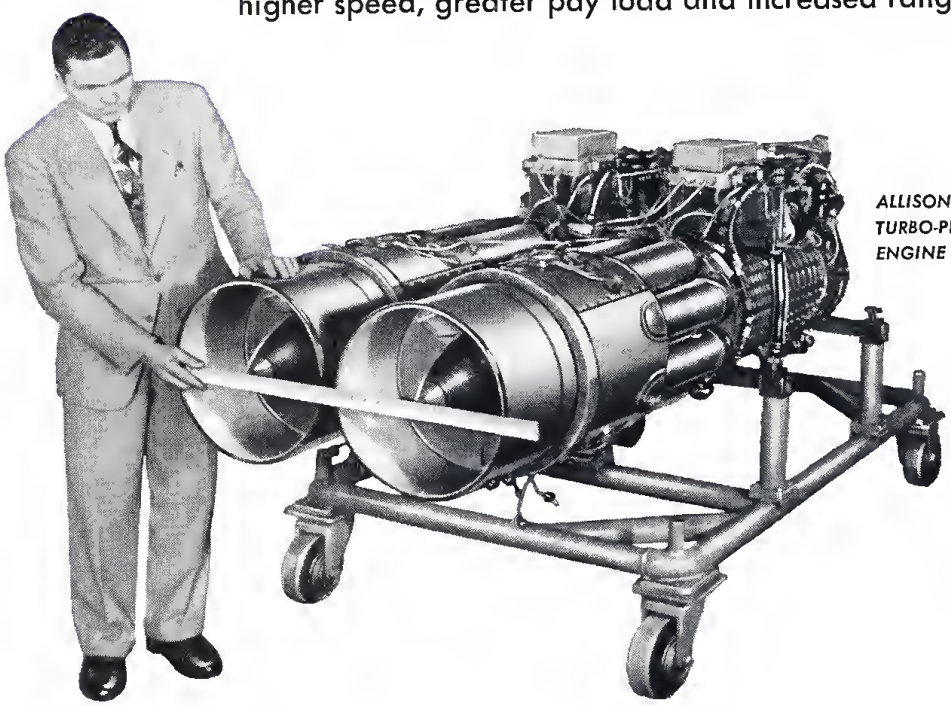

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